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THE CITY OF BUFFALO'S INITIAL TRIP.

The new sidewheel steamer City of Buffalo made her initial trip very successfully last week. Mayor Jewett and party, from Buffalo, made the trip to Detroit by train, and the Cleveland contingent went over by boat, all arriving there Thursday morning. The colors were attached to their halyards at each of the flagstuffs, and a man was stationed at each. The presentation party from Buffalo, and the directors of the C. & B. Co. gathered at the after end of the boat on the promenade deck, and Mayor Jewett formally presented the colors on behalf of the city of Buffalo to her beautiful namesake. They were accepted for the steamer by Gen. Mngr. T. F. Newman, who at the close of the speech-making, gave a signal to Commodore George W. Gardner, who stood abreast the big walking-beam. The commodore raised his cap, Capt. Edwards, on the bridge, gave the word, and all the flags were run up simultaneously. At the same instant the lines were cast off, and the big steamer fairly shot out into the stream. She made an excellent trip across to Cleveland, and was met outside by the steamer State of New York with a large delegation from the Cleveland Commercial Travelers' Association on board. The City of Buffalo was royally greeted as she entered the harbor. She proceeded directly to her dock and took on some freight, afterwards moving across the river to take on her fuel. About midnight, when the guests had assembled on the dock, Capt. Edwards brought her across the stream again by means of her own power—a very neat accomplishment with so large a vessel. She left an hour later with about 300 guests on board and made an easy trip to Buffalo.

A late departure from Cleveland had been arranged, in order that Buffalo might not be reached at too early an hour, and in this the boat succeeded perfectly. A loose key caused a stop which meant considerable delay, but the big steamer reached Buffalo just at the noon hour. The docks from the mouth of the creek to the C. & B. dock were black with howling humanity, whose cheers were drowned by the din of the whistles. Gen. Mngr. Newman, as the boat touched the dock, called for three cheers and a tiger for Mr. H. S. Fisher, general agent of the line at Buffalo, and his call was responded to with great enthusiasm.

Some Buffalo newspaper man, whose eyes were evidently somewhat dazzled, remarked next morning that the looseness of the machinery caused considerable vibration of the steamer. As a matter of fact there are few boats that have so little motion as the City of Buffalo. By reason of her great power and the rigidity of her feathering paddles the "push," which occurs when the connecting rod moves downward is almost imperceptible on this boat, and vibration is reduced to a minimum for the same reason. The machinery is rapidly smoothing down into fine working order, and it is expected that she will develop 22 miles per hour.

About 2,000 Buffalo people enjoyed a lake ride in the afternoon, and several times that number looked over the boat during the evening as she lay at her dock. About 300 guests from Buffalo and the East came to Cleveland on the return trip. The steamer behaved splendidly on her way up, making the run in nine hours and three minutes. Mr. Thomas Fitzpatrick, the well-known vessel owner, who was formerly engineer of the steamer Western Metropolis, stated that this broke the record by just two minutes, 9:05 being the best record of that crack boat, in spite of the fact that it has been stated within the week that the Western Metropolis had made a record of 8:35. After a lake ride out of Cleveland, tendered especially to the Cleveland Chamber of Commerce, at which some very enter-

taining and instructive speech making was done, the City of Buffalo went regularly into commission on Saturday night, returning with the Buffalo guests, and making the trip in 8:40.

In referring to past time in olden days, it is not out of place, in recalling the palmy days of steam boating, when the Western Metropolis was in the height of her glory, to give a short sketch of this crude steamer. She was built in 1856, at Buffalo, by Bidwell, Banta & Co., and measured 34 feet over all by 40 feet beam and 18 feet depth, with a tonnage of 1860. She had a beam engine, built by Merrick & Towne, Philadelphia, with a diameter of 76¼ inches by 12 feet stroke. Her two boilers were built by the Buffalo Steam Engine Co. and were 12 feet in diameter by 40 feet in length. She had iron paddle wheels 38 feet in diameter. The Western Metropolis was built to run on Lake Erie between Buffalo and Toledo, in connection with the Michigan Southern & Northern Indiana Railroad. She afterwards ran out of Cleveland, but only for a short time,



W. F. HERMAN.

General Passenger Agent C. & B. Line.

and in 1862 was dismantled and converted into a bark. Her engine, which had previously been in the lake steamer Empire State, was taken to the Atlantic coast, and placed in a steamship also called the Western Metropolis. As a bark the Western Metropolis carried 5,000 yards of canvas, and was never beaten by any sailing craft. She had a cargo capacity of 65,000 bushels of grain. She was lost on Lake Michigan in 1864.

The success of the several complimentary trips was due to the efforts and good judgment of the officers of the line. Mr. Newman, Mr. Herman, Mr. Rogers and the entire clerical force having been kept busy for weeks before the start was made. Of these three, two are very well known to the marine fraternity, and need no further introduction here.

Gen. Pass. Agent W. F. Herman has spent most of his career with the railroads, but was appointed general passenger agent of the Cleveland & Buffalo line

when that office was created. He was born in Hamilton, Can., and began his railroad life in 1870 with the Great Western road, as it was then known. He remained with this company seven years in the operating and purchasing agent's department, and then came over into the United States, taking a position with Gen. Passenger Agent James Charlton, of the Chicago & Alton. He was afterwards connected with the Burlington road, and later became private secretary to George H. Daniels—now passenger agent of the New York Central—when that gentleman was with the Wabash railroad. He accompanied Mr. Daniels in his changes to the Iowa Trunk Line and the Colorado Pool, with headquarters at Denver.

Mr. Herman came to Cleveland in 1884 as the representative of the Union Pacific. He later looked after the interests of the Milwaukee, Lake Shore & Western, and then became contracting agent for the Great Northern Railroad.

Mr. Herman's natural abilities, with the training he received through association with Mr. Charlton and Mr. Daniels, who are still recognized as two of the leading passenger men of the country, have enabled him to be of the greatest service to the Cleveland & Buffalo Transit Co. He has a wide acquaintance among both passenger and freight men, and his personal popularity has served to augment considerably the business of the steamer line, which is so large that the advent of the new City of Buffalo will only serve to enable the boats of the line to take care of the business expected this season, without counting on any increase of traffic for the future.

It is, of course, recognized by all that the necessity will soon arise for a steamer which shall be as large and powerful as the City of Buffalo, to take the place of the State of Ohio upon the route. The astonishing amount of business created in the few years during which the company has operated is certainly a sufficient evidence of the ability of all connected with it, and this certainly includes the capacity and efforts of General Freight Agent H. S. Rogers, who is a steamboat man by birth, education, and prejudice, and who has more friends and admirers than he could enumerate in a long time.

It may not be generally known that, in spite of the boasted ability of the officers of British ships, the stiff examinations for masters' and mates' certificates, etc., there is still a large fleet of British seagoing vessels which do not require certificated officers at all. These are what are called the home trade cargo vessels. Although the British Board of Trade has imposed an examination test upon the skippers even of English fishing vessels, it is still the fact that a steamer or sailing ship of any tonnage, large or small, carrying only cargo, and not passengers, and confining its trade to the coasts of Great Britain and the continental ports between Brest and Elbe, may be in charge of men to whom no test of efficiency, is applied, who may be incapable of distinguishing a green light from a red one, and who may be profoundly ignorant of the regulations for the prevention of collisions at sea. Such men are in charge of vessels like the Crathie, that ran down and sank the North German Lloyd steamship Elbe a year ago, with the loss of nearly 400 lives.—Marine Journal.

The Bureau Veritas, represented on the Great Lakes by Capt. F. D. Herriman, Chicago, has just issued some very conveniently arranged tables of equivalents of French and English measures of length, and of the weights of steel plates. The figures are very clearly printed on good paper.

NEWS AROUND THE LAKES.

CHICAGO.

SOME FURTHER DETAILS REGARDING THE LOSS OF THE MARY D. AYER—GOOD WORK OF THE REVENUE STEAMER CALUMET.

Special Correspondence to The Marine Record.

CHICAGO OFFICE MARINE RECORD, May 19, 1896.

Grain freights at this port took a tumble this week to 1½c on corn to Buffalo and no improvement in grain freights is expected until there are larger demands for grain from eastern cities.

J. J. Rardon & Co. chartered the steamer City of London, for barley to Buffalo at 1½c; the steamer Phoenix for corn to Superior at 1½c on Friday last.

Capt. John Prindiville chartered the schooner Emily B. Maxwell for corn to Port Huron at 1½c.

James A. Calbick & Co. chartered the steamer John Spry and consort Johnson for lumber from Ashland to Chicago at \$2 per 1,000 ft.

The Lake Michigan and Lake Superior Transportation Co.'s steamer Peerless, bound up, broke her shaft when entering Portage canal last Sunday night.

I have received from the Branch Hydrographic Office, Navy Department at this port a handsome chart of the explorations in the Arctic Circle, brought up to the present year. This delineation is one of the finest, latest and best that I have ever seen issued by the Hydrographic Office and is a modern record for the department as showing its importance to the maritime community at large.

The schooner Mary D. Ayer of this port, sank off Racine Sunday morning about 11 o'clock and Capt. William Williamson, Mate Charles Matson and three of the crew Henry Sheim, Thomas — and — Fitch went down with the schooner. William Grell and Alex Sturer, two other members of the crew were picked up by Captain MacLean and the crew, of the steamer City of Duluth, which had been towing the schooner prior to her foundering. The Mary D. Ayer was owned by Edward E. Ayer, cedar merchant of this port. She was of 336 tons burden, 144 feet long, 29 feet beam, 11 feet hold. She was built in Saginaw, Mich., in 1854, rated B 1 and valued at \$5,000. The schooner left this port Saturday night about 8 o'clock bound down the lake light and soon after midnight collided with the steamer Onoko, bound to South Chicago with iron ore—carrying away her jibboom, bow sprit and head gear, and crushing in her bow and doing considerable damage to the Onoko's pilot house and rail. Captain Johnson of the Onoko offered to render assistance to the schooner but Captain Williamson said no and asked him to send a tug from Chicago to his aid, which he did and the Dunham tug T. T. Morford was out on Lake Michigan all day Sunday looking for the schooner. Between the time of the collision and the time she was sighted by the City of Duluth she had been blown about 45 miles down the lake. It was the intention of Capt. MacLean, of the City of Duluth, to tow the schooner to the nearest land but she was making such bad weather of it that he concluded to cast off the tow line and work to windward of the schooner and drift down towards her and take the men off, but she went down before he could do so.

This season's Beeson's Marine Directory, issued a few days ago, meets with the unqualified approval of all with whom I am brought into contact. The work is the most complete of its kind ever published and reflects very great credit on its well-known publisher.

The revenue cutter Calumet, Capt. Dennett, U. S. N., is doing excellent work at this port, and there is now a semblance of law and order at the government piers along the outer harbor and a proper supervision of the tonnage frequenting Chicago. The handsome little craft is sailed under strict naval discipline, maintains a searching and thorough patrol, and is a valuable addition to the marine service of the port, a feature which I think Mr. Russell, the collector of customs, should be prepared to fully endorse.

Captain Fountain, keeper of the Chicago Life-Saving Station, and his crew had all the work they could attend to during the gale on Sunday. Besides other work of minor importance they rescued the crew of a handsome new yacht and saved her from becoming a total loss.

The business of fueling steamers is being attended to this season more than ever before. The O. S. Richardson Fueling Co. have now in operation a large convenient dock at the mouth of the river, also floating derricks and scows which are transferred by the company's tug A. B. Ward to fuel steamers at other points. In addition to this South Chicago is not being neglected as I find the P. & R. R. Co. have almost completed extensive fueling and discharging coal docks at that place.

THOMAS WILLIAMS.

DULUTH AND SUPERIOR.

VESSEL MEN TAKING MORE KINDLY TO EFFORTS TO OBTAIN STATISTICS AT THE HEAD OF THE LAKES—HAPPENINGS AND MISHAPS.

Special Correspondence to The Marine Record.

DULUTH, May 19, 1896.

The wheat rate shows signs of weakening, and offers of 2¼c are being made, but no charters are reported at

that figure. The lumber rate, on the other hand, is stiffening and \$2 is asked for Buffalo and Tonawanda consignments and \$1.87½ to Ohio ports.

The Singer tug Zenith has gone to Portage to tow the disabled Peerless to Duluth. The Peerless has a broken crank.

The cargo of the John V. Moran is damaged about 10 per cent. The bulk of it was manufactured iron, but there were 300 barrels of sugar aboard.

The steamer C. H. Bradley was aground in the St. Louis River for two days last week and was finally released with the assistance of two tugs and a dredge. She was going up for lumber, but when released changed her orders and left with grain. The steamer Holland also went aground in the St. Louis River on Sunday and was released after a few hours.

The tow post of the tug Pathfinder was pulled out on Monday, which incapacitates her for use for some time.

The tug Bennett, of the Cranberry Lumber Co., lost a raft near the entrance to Superior harbor this week during a heavy northeaster. The heavy winds have almost entirely stopped log towing.

The government inspector who has in charge the work of gathering the reports of cargoes from the vessels arriving and departing from the ports at the head of the lakes, for the use of Maj. Sears, the government engineer here, finds that the vessel men are taking more kindly to the regulation this year and are causing less trouble than last.

The steam ferry Oden, plying between Duluth and Superior, has been sold by Ole Olssen to Capt. John Shay, who has been running her for the past six years. He will continue her in her present service.

The steamer Rees carried the banner cargo of wheat out of here last week. She took 134,000 bushels in a draft of 13 feet 3 inches forward and 13 feet 10 inches aft.

The barge Clement, which has been leased by the Northern Steamship Company for use as a lighter, is being put in shape for use. A house will be built on her and other improvements made.

Capt. B. B. Inman has sold his tugs Ariel and Lida to D. E. Stevens, who will use them in his log-towing work on the Nemadji river.

Capt. W. C. Brown, Marine Superintendent of the Northern Steamship Company, arrived this week from Buffalo and will be here several weeks.

Capt. Singer's new tug, the D. L. Helm, arrived from Chicago on Sunday evening, after a stormy trip.

E. E. BEEBE.

BUFFALO.

"MONSTER LEVIATHANS OF THE DEEP" BECOMING A CHESTNUT—THE EXCURSION LINE POOL—CAPTAINS AWHEEL.

BUFFALO, May 19.

These are the days of big steamers. They sail in here in one, two, three order and tie up and wait for the good-natured marine reporters to give them a column puff. Some of them are getting it, but the thing is growing awfully monotonous, and they will soon be voted a bore and turned down with a line. The owner of one of them confessed the other day that the day of some of his "monster" boats, as they were called when they came out, was over. They are commonplace craft now. "What are such as the Curry or Selwyn Eddy now?" he asked. "Might as well turn them over to the class that the canal schooners are in."

Some day there is going to be a harbor master here with his lungs split wide open. Capt. Soper is about the hardest worked man in the harbor now, and he is not afraid to order a vessel to move. His melodious voice is raised to a high key when business sticks fast on account of some 400-footer getting full length of a cross slip and sticks out over both branches of the main harbor besides. Already the Sturges elevator, which stands on a slip, is barred from taking the end hatches out of the heavier craft. They will shut off the whole fleet if they tried it.

The constantly improving condition of the water in the harbor is adding to the general ease of movement. The government engineer is of the opinion that the levels will rise at least till July, when if the present dry weather continues they will subside again. There is so far much less complaint against the shallow water in the Niagara than was expected, and there are no reports of striking bottom, though the Tonawanda fleet is now quite large.

The lumber fleet appears to be busy, and Duluth paid \$2 to Buffalo a day or two ago, but it is a fact all the same that this port is receiving less lumber than for many a spring. The business is so dull that no one is laying in a board unless there seems to be a call for it. The docks begin to be covered with red cedar shingles again, but everything else in that line promises to be slow for awhile at least.

Sloan & Cowles, the excursion boat owners, have at last accomplished, at least in part, what they have been trying to do for several years. They were convinced that the boats ought to be pooled or in some way put under a single management, so that there would be no disposition to cut rates and the running expenses would be less. They were able to announce last Saturday that they had pooled all the boats but the Crystal Beach and Schlosser interest and the steamer Columbia, which runs wild. This gives them the whole of the Grand Island resorts, the Canadian, Niagarg Falls route, and the

south shore route to Woodland Beach. It would have been more satisfactory to get the whole of the interests together, but there is now a chance to prove to the others that their idea is good. The traffic is large, but the rates are so low that very little money has ever been made. Sloan & Cowles have sold the steamer Pilgrim to ocean parties and bought the Niagara steamers Shrewsbury and Harrison to complete the deal.

E. T. Hitchcock has been sniffing salt-water breezes since he dissolved partnership with D. H. Wilcox in the average adjusting business. There is some talk of his locating in New York, but he is back at present with a harrowing tale of the terribly hot weather at the seaboard last week.

The complaint of grain shortages is not heard any more. The first Chicago fleet had some bad cases which are still under investigation. They all came out of the Armour House, and being about 500 bushels each, it looked as though a craft had been counted that had not been loaded. Tallymen are shy over the matter while the inquiry is going on.

At last the speculation over the sort of improvement the Northern line is to make on its new dock is settled. There will be 1,500 feet of new dock and a warehouse 1,001 feet by 100, to be finished August 1. The idea of a slanting dock that will begin about a foot and a half below the older ones and rise to a point above high water line, mostly inside of the house is a novelty and will be watched with interest, for it looks quite feasible and may solve the dock problem.

The determination of the Northern Steamship Company to build does not appear to be modified by the complaint of the western flour shippers against the storage charges that have lately been laid on ex-lake freight that is not shipped out promptly. The old plan was to allow a shipper, if he happened to come from the West, to leave his freight in warehouse as long as he pleased without charge. Of course, such a privilege was bound to be abused, and the result was so much accumulation that the roads were obliged to put on a storage charge. This was fixed at 12½ cents per 100 after twenty days, for each twenty days or fraction of that time that the freight lay in warehouse. This created a great breeze among the western shippers and they protested that they could do nothing with their old privilege cut off. After considerable negotiation it was agreed to allow the shippers till August to get their old freight out of the way, but the rule was made to apply to all new freight coming in.

The new Cleveland liner City of Buffalo is coming in for considerable miscellaneous good opinion as she makes her way about the harbor. She promises to clean up the freight that had accumulated very soon and there seemed to be no doubt of her popularity as a passenger boat. Then she has power, as is shown by the attention she gives to a turn of her wheels. One dockman said as she went down stream this morning that if she should come inside at a good rate of speed she would throw all the other boats on top of the docks.

The date of launching W. J. Conners' steam yacht has not been fixed, but it will have to occur pretty soon in order to carry out the programme of taking her to the Democratic National Convention in Chicago on the 8th of July. A party is already made up and the boat will be given a chance to show what speed there is in her.

The big steamer Rees had to repeat a time-honored custom of wetting a part of her wheat cargo. This is too common an occurrence with a new boat, and is a very expensive way of finding a hole in a boat's hull. As the leak was of minor account and the gross freight was more than \$4,000, the Rees will probably not go out of the grain trade on that account.

Capt. Ed. Maytham, head of the tug line of that name, is a most enthusiastic bicyclist of the crop of '96. He is already off with the boys at night scorching to the towns in the neighborhood and appears to lead the lot, whether old or new wheelmen. As it is sometime since he sailed the lakes he is somewhat rusty on the phraseology of the deep and doesn't have to hail the wheels he meets "hard a-port", as is said to be the case where a sea captain takes to the bike. Townsend Davis, the insurance agent, is taking to the wheel this season for the first time like a duck to water, but Capt. Charley McMillan rode one awhile last fall and retired. It is not stated how many close personal reminders he has of the experience.

JOHN CHAMBERLIN.

IN GENERAL.

The Thompson Tug Line has fitted up a model eating house on its dock at the Government Pier, Sault Ste. Marie, for the accommodation of its employees.

The Thompson Tug Line, of Port Huron, has secured articles of incorporation as the Thompson Towing and Wrecking Association, with \$100,000 capital stock. They are said to be preparing plans for a new wrecking tug.

The excursion boats running out of Toledo have advanced their rates.

Geo. Lee, of the firm of McCullom & Lee, who are deepening the channel at the foot of Lake Huron, died yesterday at Port Huron. He was 44 years old. A widow and three sons survive him.

The Secretary of the Treasury has awarded contracts for the construction of the Forty-Mile Point light station, Michigan, as follows: For brick, C. Clippert & Son, Detroit, \$1,148; for factory work, the Delta Lumber Co., Detroit, \$551; for sub-station stores, John Blesed & Son, Detroit, \$683; for metal work, the Russell Wheel Co., Detroit, \$1,389.

WRECKS AND WRECKING.

The steamer C. H. Francis was damaged \$1,500 by

The two cylindrical boilers will weigh, with water, 120 tons, and the eight Yarrow boilers, with water, 88 tons. Their weights include grate bars and fittings, but not smoke pipes. These figures give 119.47 pounds

The first tow of the Cleveland Steel Canal Boat Co. reached New York after a ten day's voyage from Cleveland. The cargo included 147 tons of steel wire nails for export to Japan, and a quantity of paraffine for Germany.

INTERNATIONAL ELECTRICAL EXPOSITION.

At the International Electrical Exposition now in progress at New York, one of the most popular and fetching exhibits is a model of the Erie Canal, which occupies a position in the west central part of the main hall. The model is 40 feet long, six feet high, and three feet wide, and contains a conduit raised about three feet from the ground, and having about nine inches depth of water to represent the canal. Three model boats, each two feet long, represent the new steel craft of the Consolidated Canal Co. There are eight poles five feet apart, and between the two cables stretched on these runs a trolley representing about one-quarter horse power. The force of this will be taken from the stored power sent down from Niagara Falls, also from the regular circuits of the building occasionally. The three model boats work their way along the miniature canal, (which has a painted background of rural scenery), and on arriving at each end of the section the motor reverses the action automatically. The model is the work of Richard Lamb, civil engineer and inventor of the present Tonawanda system of canal bank haulages.

The great central point of attraction of the Exposition and most popular exhibit is, without doubt, the large and beautifully finished model of the canal power house, wheel pits, turbine wheels and tunnel by which the gigantic force of Niagara Falls is utilized, harnessed and transmitted a distance of 468 miles to the City of New York. Hitherto the longest transmission of electrical power was on the Leafield-Frankfort line in Germany, a distance of 110 miles, but the United States now holds the banner, with the above-mentioned record-breaking achievement.

The good old Joseph Dixon Crucible Co. is just about to enter the seventieth year of its existence, but no signs of old age or decrepitude are apparent in any of the environments of this concern. The company's stove polish, pencils, paints, grease, crucibles, electric resistance rods, etc., are better than ever, and seem likely to continue to make their mark in the United States and abroad for at least another period of seventy years. Their exhibit is a small and compact one, but they have a large factory and a well founded trade behind them.

From Cleveland a competitor shows up in the line of incandescent lamps, and by a marked simplicity of design endeavors to win a share of what trade is going in that department. The Adams-Bagnall Co., of the said city, present samples of their A B style of lamp, which is nicely rounded off at the bulb end, thus showing no curve or projecting point, as in other incandescent lamps.

WORKING WITH FIVE CRANKS NOW.

The Inchmona, engined by the Central Marine Engine Works of Wm. Gray & Co., Ltd., West Hartlepool, for Messrs. Hamilton, Fraser & Co., Liverpool, went on an extended trial trip May 4 and 5. The principal feature consists of the engine, which is provided with five cranks instead of the usual three. There are two low-pressure cylinders of equal size, and the engines work on the quadruple principle, each of the five cylinders driving one of the five cranks. The cylinders are all in a straight line on the center-line of the ship, and all the valves are on the same line, immediately over the crank shaft, and driven by the ordinary link-motion type of valve gear. The five cranks are set at equal angles around the crank circle, so that the propeller receives no less than ten impulses per revolution, besides which a much higher speed of revolution may be freely adopted than is usual with three-crank engines. A three-crank engine at 60 revolutions per minute, having six impulses per revolution, gives 360 impulses per minute; while a five-crank engine running 80 revolutions per minute, with ten impulses per revolution, will give the shaft 800 impulses per minute, or more than twice as many as the three-crank engine. At the trials the engines ran so smoothly that at over 100 revolutions per minute there was no vibration of the ship whatever, although she was entirely without cargo. At this speed there are more than sixteen reciprocating impulses delivered per second. The high speed in the reversal of impulses accounts for the absence of cating weights can without difficulty be made exactly vibration in the ship. With five cylinders, of which, as in the case of the Inchmona, the diameters are 17 in.,

24 in., 34 in., 42 in., and 42 in., the three larger reciprocating, and with a little scheming the weights of the whole five can be made equal.

PENNSYLVANIA COAL PRODUCTION.

The reports of mine inspectors of Pennsylvania show that the production of that State was 50,847,104 tons, as compared with 45,506,179 in 1884, which was the next greatest production year except 1892, when 45,738,373 tons was mined. The total number of tons of bituminous coal produced in the State during 1895 was 51,813,112, which is also the largest on record.

FLOTSAM AND JETSAM.

From present indications the coal handlers at Duluth and Superior will not strike this season.

April coal business at the head of the lakes amounted to 5,325 cars moved away from the docks, against 6,806 in March.

The Brown hoists on the Pennsylvania & Ohio Fuel Co.'s docks at Duluth were blown down last Thursday by the high winds.

The price paid for the fine Crescent Line steamers recently by the Union Transit Co. is now stated as \$230,000 on long time.

The W. D. Rees reached Buffalo Thursday morning with 136,000 bushels of wheat on 14 feet draft, the largest wheat cargo ever taken to that port.

The Racine Boat Manufacturing Co. have succeeded to the boat building business of the late Racine Hardware Manufacturing Co., at Racine, Wis.

Henry Gattie has been appointed keeper of Bailey's Harbor range lights, vice John Millidge, removed. Gattie is succeeded as first assistant at Sturgeon Bay canal by Charles Bavry.

A thousand tons of structural steel has reached Houghton for the new coal dock of the Tamarack-Osceola Co., where about 50,000 tons of bituminous coal will be delivered this summer.

General Superintendent Kimball, of the Life-Saving service, has issued a circular forbidding members of a life-saving crew, during the active season, ferrying, boating, oystering, crabbing, fishing, shooting game, gathering moss, or engaging in similar employment for pay or market, in competition with other persons engaged in such business.

Harvey H. Brown, of Cleveland, has been elected president of the Northwestern Transportation Company in the place of the late Capt. Peck. George E. Hartnell succeeds Mr. Brown as vice-president, and L. C. Waldo of Detroit is the secretary and assumes Capt. Peck's duties as managing owner.

One of the more interesting cases pending in the U. S. court for western New York is a suit by the Buffalo Forge Co. against the owners of several large steamers for refusing to pay for forced-draft apparatus furnished them by the company. The owners claimed that the blowers did not come up to guaranty and took them out. Several of the Corrigan steamers had them in, and also the Curry.

The Northern Steamship Co. last Saturday leased all of E. W. Bissell's property, Detroit, between First and Second, from Atwater street to the river, for a term of six years, beginning June 1. The rental is said to be \$10,000 per year. The name of the new Detroit agent has not yet been announced, but Robert Hart, formerly of the Sault, will probably be the man. Mr. Bissell expects to take a trip to Europe.

The sale of the Bell Lewis & Yates Coal Company's plant to a syndicate composed of New York capitalists, has caused considerable comment in coal trade circles. The sale includes all the mines in the Reynolds Valley Region, Pennsylvania, and some forty-seven miles of railroad, the Falls Creek and the Reynolds & Falls Creek. The property is to be transferred to the buyers about January 1, and the price is spoken of as being about \$3,000,000.

The annual convention of the Wholesale and Retail Coal Dealers' Association of Ohio will be held in Toledo, June 10. One fare for the round trip has been secured on the leading railroads in the State; in connection with the convention a lake excursion to Detroit is being arranged for, and a general good time is anticipated. The W. & R. C. D. A. of Ohio is in a flourishing condition, having nearly trebled itself in numbers since the convention last year. A general invitation is extended to all coal men from any direction to attend.

BEESON'S INLAND MARINE DIRECTORY.

The full value of the annual edition of Mr. Harvey C. Beeson's Inland Marine Directory can be rightly appreciated only by those who train themselves to look inside it for any information that may incidentally be desired at any time during the year. No matter what one may want to know on marine lines, the chances are 99 in 100 that it will be found between the covers of this directory, which has been largely increased in size every year. The best review of a work of this sort is a resume of its table of contents. The directory feature is most complete, including a carefully revised list of lake vessels of all sizes and classes, with general dimensions, class in Inland Lloyds, and name and address of managing owner; a full list of firms engaged in any business connected with lake commerce, arranged in alphabetical classification; record of largest cargoes; custom house list, giving location of each custom house, amount of tonnage registered in each, names of collector and all special deputies in charge of marine department; also a list of United States courts, with names of judges and marshals; resumes of freight rates for 1895, and of traffic passing through the Sault and Detroit river; table of distances between all ports; list of vessels whose names have been changed; miniature chart of the Great Lakes with short description of each; list of important marine patents for 1895. All these are interlarded with a large number of attractive illustrations and made the book a publication unequalled in its class. The value of the information contained therein is greatly enhanced by the arrangement of the work, which renders it so readily accessible. No person engaged in the marine business can afford to be without it.

NEW STURGEON BAY CANAL RULE.

The following new rule regarding the navigation of the Sturgeon Bay canal is now in force:

18. Vessel or craft sinking in canal. (Additional Rule approved January 29, 1896.)—In case of any boat, vessel, or other craft, or raft, sinking or grounding in the canal, or otherwise obstructing it, the officer or agent of the United States in charge of the canal shall have the right to take such possession of such vessel, boat, or other craft, or raft, as shall be necessary for the purpose, and remove it, and clear the canal of the obstruction caused by it, and no one shall interfere with or prohibit him from doing so; or do anything that will tend to interfere with or prohibit him from doing so; Provided, That the officer, or agent of the United States may, in his discretion, give notice in writing to the owners of any vessel, boat, or other craft, or raft, obstructing the canal aforesaid.

The range lights formerly maintained by the Engineer Department for aiding navigation into and through the canal, were on Thursday transferred to the U. S. Lighthouse establishment, and will in the future be cared for by Keeper Chapman and his assistants. The extra work of properly attending to these lights made it necessary to appoint a second assistant, and Capt. Michael Reagan, formerly master and owner of the schooner Mary Ludwig, has been appointed.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD by George F. Stone, Secretary Chicago Board of Trade, May 16, 1896:

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Albany.....	.....	30,000	75,000	.....	.....
Baltimore.....	742,000	630,000	134,000	23,000	.....
Boston.....	126,000	71,000	37,000	.....	.....
Buffalo.....	1,547,000	477,000	300,000	143,000	106,000
" afloat.....	.....	.....	.....	.....	.....
Chicago.....	15,225,000	4,137,000	1,724,000	363,000	10,000
" afloat.....	.....	.....	.....	.....	.....
Cincinnati.....	9,000	3,000	28,000	1,000	26,000
Detroit.....	197,000	21,000	6,000	13,000	2,000
" afloat.....	.....	.....	.....	.....	.....
Duluth and Superior.....	8,574,000	.....	85,000	184,000	211,000
" afloat.....	.....	.....	.....	.....	.....
Indianapolis.....	67,000	6,000	.....	.....	.....
Kansas City.....	1,066,000	72,000	34,000	29,000	.....
Milwaukee.....	667,000	2,000	.....	365,000	64,000
" afloat.....	.....	.....	.....	.....	.....
Minneapolis.....	17,702,000	73,000	618,000	79,000	24,000
Montreal.....	502,000	54,000	396,000	6,000	64,000
New York.....	1,362,000	1,306,000	1,540,000	50,000	2,000
" afloat.....	48,000	83,000	128,000	.....	.....
Oswego.....	9,000	94,000	.....	.....	10,000
Peoria.....	14,000	2,000	106,000	8,000	.....
Philadelphia.....	172,000	184,000	182,000	.....	.....
St. Louis.....	686,000	278,000	38,000	1,000	.....
" afloat.....	88,000	.....	.....	.....	.....
Toledo.....	490,000	78,000	44,000	126,000	.....
" afloat.....	.....	.....	.....	.....	.....
Toronto.....	30,000	17,000	93,000	.....	22,000
On Canal.....	1,632,000	116,000	950,000	118,000	146,000
On Lakes.....	2,094,000	1,205,000	1,220,000	41,000	121,000
On Mississippi.....	87,000	214,000	152,000	.....	.....
Grand Total.....	53,146,000	9,153,000	7,890,000	1,550,000	808,000
Corresponding date 1895.....	56,484,000	7,567,000	6,333,000	148,000	182,000

LAKE SUPERIOR AND MISSISSIPPI CANAL.

Major Clinton B. Sears, Corps of Engineers, U. S. A., has submitted, under date of March 10, the report of his survey of the route of a proposed canal from Lake Superior to the Mississippi River, in compliance with the provisions of the river and harbor act of August 17, 1894.

Major Sears states that the information obtained from examination made of various routes considered for the location of the canal justified a survey on two routes only, one of which extended by way of Allouez Bay and the Brule and St. Croix rivers, and the other via St. Louis, East Savannah, and Prairie rivers, and Sandy Lake.

These routes are known in the report as Route No. 1, and Route No. 3, the second route proposed having been discarded as impracticable.

The cost of a barge canal 80 feet wide at water surface, 59 feet wide at bottom, and 7 feet deep, along the first route is estimated to be \$7,050,000, exclusive of the compensation for the vested rights of the logging interests. The cost of a canal of the same dimensions along Route No. 3 mentioned is estimated to be \$10,575,715.90, exclusive of the vested rights of water companies on St. Louis river.

A steamboat canal 100 feet wide at bottom, 121 feet wide at surface, and 7 feet deep along the latter route is estimated to cost \$18,015,112.87.

from Lake Superior to St. Paul and Minneapolis; but the wording of the law, "a canal connecting Lake Superior and the Mississippi River," has prevented the expenditure of any money for an examination or survey of any portion of the Mississippi as a connecting link in the proposed waterway or canal. The work has stopped when this river has been reached, leaving the Mississippi River end of Route No. 3 over 300 miles from St. Anthony Falls.

The amount appropriated for the work, \$10,000, was too small adequately to cover the ground, and it has been a matter of close and serious study to use the money so as to get the greatest amount of useful and practical information. The territory to be covered comprised some 12,000 square miles of country, for the most part covered with forests and swamps, very much broken up by hills and ravines, very sparsely settled, and with few lines of communication. To get across the swamps much work had to be done in the winter during very cold weather, and the work of the spring and early summer has been very greatly retarded by heavy rains and swollen streams. The field work was not completed until the middle of November, 1895. The work has been in the immediate charge of Lieut. C. H. McKinstry from its inception up to the time he was relieved from duty under my orders. He discharged his duties with industry, ability, and good judgment, and I regret that he was not continued on duty until the work could be completed and the report submitted.

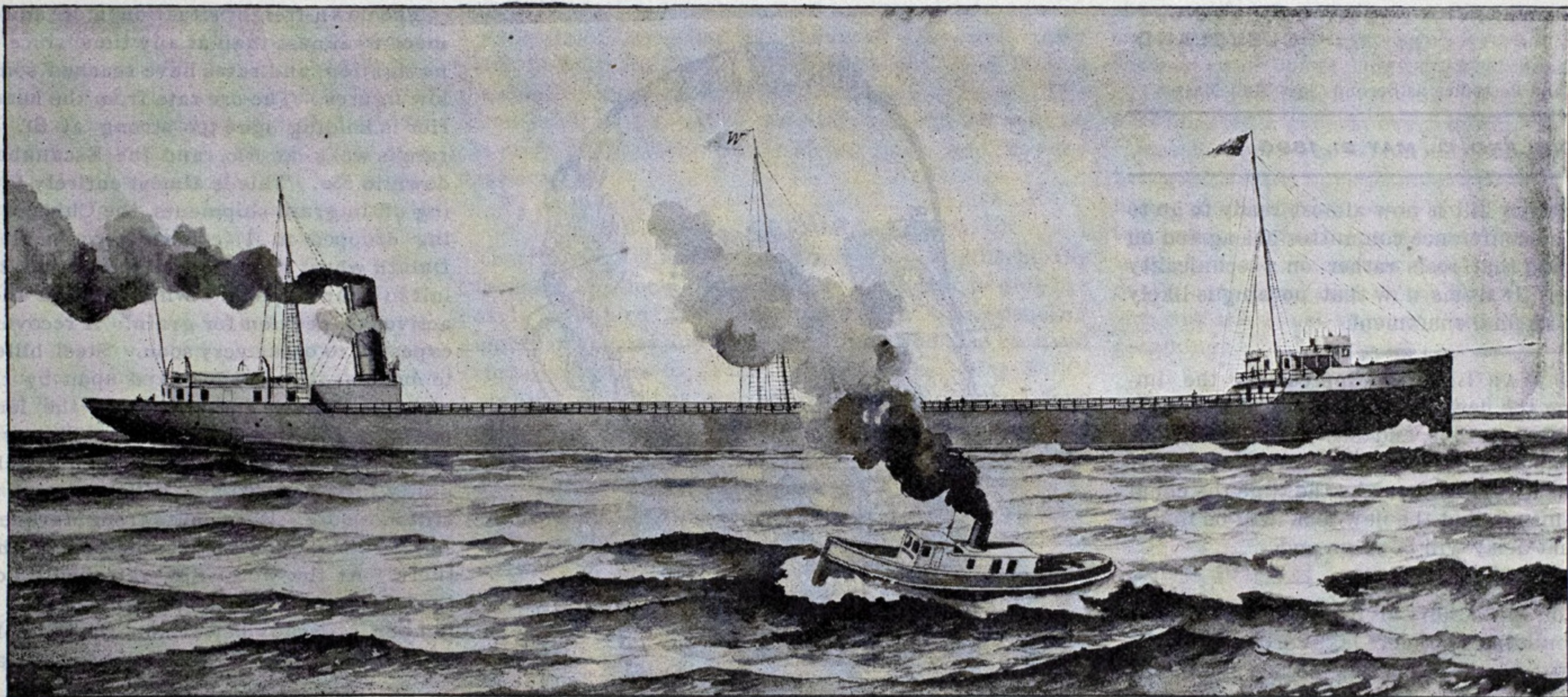
The total length of the waterway from Lake Superior at Allouez Bay to the Mississippi River, at the mouth of the St. Croix River, is 210 miles. The height of summit level above Lake Superior is 416 feet; the total height (up and down) is 767 feet; the number of hydraulic lifts is 24.

OPERATING AN ORE ROAD BY GRAVITY.

The weight of the freight carried on the railroads has always been the energy which is overcome by the various applications of steam and electricity. Until lately no attempt has been made to utilize this energy. It is now to be done on a railroad where peculiar conditions exist, and it promises complete success. The new Marquette & Iron Range Railroad runs from Lake Superior fifteen miles inland to the mines, and in this distance the total grade amounts to a rise of 800 feet. The freight will be exclusively iron ore. The cars will be run in trains of ten each, each train to be supplied with an electric generator, connected with the axles. The grade is such that the loaded cars run down by their own weight, and the dynamos generate a current, which is taken off upon a trolley wire, and used to haul the empty cars back. It is thought that the difference in weight of the loaded and empty cars will result in enough power to overcome all leakage, friction, etc. The engineers are figuring on using the dynamos as motors on the return trip, to save expensive machinery. The road will be open very soon and the result of the experiment will be awaited with interest.

THE LIBRARY TABLE.

"Know Your Own Ship," by Thomas Walton, is the title of a book of handy size for the quarters on board of every ship's officer. It is the first of a series designed



STEAMSHIP W. D. REES.

This ship was the first of the new fleet of 1895 to go into commission. She was completed about the opening of navigation, and was built by the Cleveland Ship Building Company to the order of the Wilson Transit Co., of Cleveland. She is a 400-footer, and on Thursday last arrived at Buffalo with the largest cargo of wheat ever received at that port, 136,000 bushels, on only 14 feet draft. This picture is reproduced by courtesy of Seaboard, New York.

If the final objective for the water-way be the Mississippi River, near St. Paul, the selection of Route No. 3 would necessitate the improvement of the Mississippi from Sandy Lake to a point below St. Anthony Falls, and Major Sears is of the opinion that the cost of such waterway having a minimum depth of 7 feet from Lake Superior to the Mississippi River below St. Paul via St. Louis River, Sandy Lake, and the Upper Mississippi, will be at least \$19,000,000 for barges, and for steamboats, if practicable at all, over \$30,000,000.

Assuming the total cost to be immediately available, the construction of the waterway by Route No. 1 would take four years, and by Route No. 3, as far as the Mississippi River only, would consume ten years. For these reasons Major Sears is of the opinion that Route No. 1 is the most feasible route.

Major Sears' report opened by giving the clause of the law authorizing the survey, and comments upon it as follows, this comment indicating that he is not very enthusiastic over the proposition to construct any canal whatever. He says:

The law prescribes the consideration of three routes, but precludes an opinion as to whether any one of them is feasible, or whether the commercial benefit to be derived will justify the expenditure. * * * I have, therefore, confined myself to the question as to which of the routes mentioned is "the most feasible."

From conversation with the promoters of the law I understand that the intention was to provide for a canal

The total length of Route No. 3, from Lake Superior, at the Duluth Canal entrance, to the Mississippi River at the outlet of Sandy Lake is 94 miles; the height of summit level above Lake Superior is 634 feet; the total lift (up and down) is 660 feet; the number of hydraulic lifts is 9, and of locks is 23.

Major Sears estimates the cost of a seven foot channel from Pokegama Falls, 60 miles above Sandy Lake, to St. Anthony Falls at least \$6,000,000, and \$2,265,159 to get around St. Anthony Falls. For these reasons he reports in favor of the St. Croix River route.

COAST AND FOREIGN SHIP BUILDING.

During April English builders launched 28 vessels against 24 the previous month.

The twin-screw steamer Canada, the latest addition to the Dominion line, was launched last Thursday by Harland & Wolff, at Belfast, Ireland. The steamer is 510 feet long, 58 feet beam, and 36 feet deep, and far exceeds in size any vessel now running between Canada and Europe. She has a tonnage of nearly 9,000, being in many respects like the Majestic and the Teutonic.

During April Scotch shipbuilders launched 25 steamers, of 42,228 tons (against 28 vessels of 41,040 tons in March, 1896, and 26 vessels, of 29,146 tons April, 1895). For the year so far 140,112 tons have been launched, against 91,106 tons for the same period last year, 97,972 tons in 1894, 74,661 tons in 1893, and 145,492 tons in 1892.

to meet the growing desire on the part of officers in the mercantile marine for a more scientific insight into the principles of their profession, and the sciences upon which the art of navigation is founded. The author is a naval architect and lecturer to ship's officers at the British Government Navigation School, Leith, and is consequently well qualified to treat the subject in a manner thoroughly scientific, yet as free as possible from abstruse technicalities, and the style is such as will render it easy for the young sailor to gain a knowledge of the elements of his profession by private reading and without difficulty. It is published in America by the J. B. Lippincott Co., Philadelphia, at the price of \$2, bound in cloth with decorations in gilt.

The young tars who are going afloat this season for the first time will find much that is useful to them in a little book entitled "The Amateur Sailor," by Alex. I. McLeod, the Detroit yachtsman. The book treats in a plain and practical manner of the rudiments of sailing and yachting usage; and while intended mainly for the less experienced yachtsmen, it has many little points that will repay the older hands for a perusal. It is published by E. H. Gilman, Detroit, Mich.

The Safety Valve is now printed in magazine form and is very attractive in appearance.

The wreck of the schooner Ferret, which was sunk in Maumee Bay by the Idlewild last fall, has been removed from the channel.



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□ THE river and harbor bill is now almost ready to go to the President. The conference committee has agreed on all but one thing and that rests rather on a technicality than anything else. It seems now that nothing is likely to occur to hinder its final enactment.

SECRETARY OF WAR LAMONT appreciates the importance of making the new American lock at the Sault available as soon as possible, and has made a contract which virtually amounts to a bonus for Mr. Donnelly if he gets the approaches dredged out by the time the canal is finished. This means that the new lock will be in use by August, and that delay will be at an end.

THE conferees on the sundry civil bill have agreed on the provision for building two more lake revenue cutters. These will cost \$200,000 each, and will mean a shipbuilding contract amounting to at least \$350,000 for the two boats, to be awarded to lake builders. This will be a very acceptable addition to building; and the bidding on the new boats will probably be lively. They will doubtless be constructed with a view to converting them into war vessels in time of need.

It is now claimed on the Canadian side that American fishermen continue their gill-net fishing in Canadian waters, but do not buoy their nets. This theory has been scouted, but it is not impossible that some of our enterprising fishermen have been applying the science of navigation to the location of their nets by taking bearings and buoying their nets by means of bottles or small blocks of wood which would be observable at a few yards distance, but which would excite no attention in the ordinary observer. While the position taken by the Canadian government in the matter of fisheries does not admit of criticism, it must be remarked that Yankee 'cuteness' is going to keep the Dominion executive officers guessing.

THE Detroit River marine postoffice is steadily growing in favor with the masters and crews of lake vessels, and the river service is receiving more co-operation, and is consequently being more useful every day. Last year many masters considered it a "frill" and rather a nuisance, and would go up and down the river at full speed to give evidence of their views. Nearly all, however, have found instances in which the river service proved of practical convenience and value to them, and most of the boats now check down. About 600 pieces of mail are delivered daily, and whenever a boat is missed

the boatmen have to make a report to the main office. The skill shown is something wonderful, and the boatmen deserve great credit for their proficiency. On a recent Saturday only one boat was missed out of 129. And the government offers but \$50 per month to boatmen for this sort of work.

CAPT. W. A. GORDON.

Capt. W. A. Gordon, mate of the schooner Emma C. Hutchinson, fell overboard last Monday, as the vessel was coming down lake Erie, and was drowned. He had been acting strangely all day, but Capt. T. K. Woodward, of the schooner, thinks the drowning was accidental. The accident occurred thirty miles this side the dummy, on the course for Ashtabula.

Capt. Gordon was last season master of the schooner C. C. Barnes, and was a quiet man, faithful to duty. His family live on Prouty avenue, Toledo. He leaves his wife, three sons, aged 19, 14 and 10 years and a daughter.

SUDDEN DEATH OF CAPTAIN BERNARD WILDS.

Captain Bernard Wilds of the steambarge St. Paul, died suddenly on board his boat at 5:40 Sunday morning while crossing Lake Erie. His death was due to a stroke of apoplexy received Friday, while the boat was at Conneaut, O.

Captain Wilds was owner as well as master of the St. Paul, and commanded her for two seasons. He was



CAPT. BERNARD WILDS.

born at Lancaster, O., 62 years ago and most of his life was spent on the lakes. He brought out the steamer Lansing, of which he was part owner, with David Whitney. He was also at one time commander of the Alice Wild, which sank in collision on Lake Michigan several years ago. He accumulated property worth about \$75,000. He leaves a widow and three married children.

James Tobin, formerly mate of the St. Paul, has assumed command.

CAPT. FERD JORNS.

Capt. Ferd Jorns, of Egg Harbor, died at his home in that town on the night of May 6. Capt. Jorns was born in Hamburg, Germany, Sept. 13, 1842. When thirteen years of age he went to sea and he followed that until 1857, when he left his ship at New York and came west, subsequently sailing on the Great Lakes. Abandoning seafaring Capt. Jorns located at Bailey's Harbor, and from thence he removed to Egg Harbor, where he resided for upward of a quarter of a century. He was married at Bailey's Harbor, and a widow and ten children survive. His older brother Adolph died in the village of Bailey's Harbor only a couple of months ago.

NOTICE TO MARINERS.

IMPROVEMENT IN ARNPRIOR ISLAND LIGHT.

The mast from which a light was shown on an islet opposite the town of Arnprior, Chats Lake, Upper Ottawa river, has been replaced by a new mast 10 feet higher than the old one, and the pressed lens lantern has been replaced by a 7th order dioptric lantern.

The color of the light has also been changed from white to red. The light in future will be fixed red, elevated 40 feet above the ordinary level of the water, and should be visible eight miles from all points of approach by water.

The white shed at the base of the mast remains as heretofore.

CHANGE IN KINGSTON HARBOR BUOYS.

On the opening of navigation this year the three platform buoys heretofore maintained on Penitentiary shoal, Myles shoal and Bolivia shoal respectively, in Kingston Harbor, Lake Ontario, were not moored in position but were replaced by wooden spar buoys surmounted by slat-work globes or spheres.

The buoys are painted as heretofore, viz., in red and black bands, and are moored as near the middle of the shoals as possible, in 12 to 14 feet water. Vessels should give the buoys a good berth as the shoals extend some distance.

THE FREIGHT SITUATION.

The down-freight situation in ore and grain has shown more weakness than at any time since the opening of navigation, and rates have reached some unexpectedly low figures. The ore rate from the head of Lake Superior is holding none too strong at \$1. The Marquette rate is weak at 80c, and the Escanaba rate has gone down to 55c. This is almost entirely to the sudden falling off in grain shipments, the Chicago corn rate having dropped to 1½c with very small business. The Duluth wheat rate dropped to 2¼c, but this was due to a lull in flour shipments which placed the line boats in active competition for grain. A recovery all around is expected to occur very soon. Steel billets have begun to move at the advance fixed upon by the combination, and this means a realization of the long-expected improvement in the iron market. This will undoubtedly help ore sales at once, and while the docks are working pretty fully now, means will be found to get forward still more ore. Shipments from Marquette will take a sudden jump upon the completion of the new railroad there. At the worst low rates will not prevail more than two months of the present season. The feeling in lumber is already better, and the outlook for the class of boats engaged in this trade is very favorable.

WHEN?

THE MARINE RECORD always contains matters of interest to vesselmen, but the last issue of May 14th has more than the usual features to attract its readers. A half-page picture is given of the largest ship on the Great Lakes, the steel steamer Coralia, which is 432 feet long and has carried 5,066 net tons on 15 feet 9 inches draft. A picture is also given of the launching last week of her sister ship, the Sir Henry Bessemer, which is of the same dimensions. A fine picture is also given of the sidewheel steamer City of Buffalo, which is described as "the finest sidewheeler afloat," and on her first trip to Buffalo yesterday received a great ovation. When will Lake Ontario be opened to these ships, and to the many other new upper lake crafts which are described in the MARINE RECORD?—Oswego Palladium.

ASHTABULA BRIDGE HEARING.

Col. Jared A. Smith Corps of Engineers, U. S. A., met the parties interested in the Ashtabula bridge question at the Stoll House, Ashtabula Harbor, Saturday. Capt. George P. McKay, representing the Lake Carriers, was in attendance and asked that the channel be widened from the present 108 feet to 130 feet. He recommended that property on the east side of the river be condemned and a channel dredged east of the abutment, which would straighten the river. He said if the bridge were moved to swing from the east side of the river the conditions would be much better, and further asked that points above and below the draw be appropriated and dredged off to help straighten the channel.

SHIP BUILDING AND REPAIRS.

AT THE SHIPYARDS.

The strike at the Globe Iron Works Co.'s shipyard, Cleveland, which grew so much as to lay idle some 600 men was ended this week. Some delay has resulted, but the lost time will be made good in every way possible.

The tug-yacht Edna G. will leave the Cleveland Ship Building Co.'s yard this morning for Duluth. A small party from the Cleveland shipyard, and Mr. Robert Logan, under whose inspection she was built, will go as far as Detroit on her. She is a very handsome boat and is expected to do much better than twenty miles per hour.

The work on the recently launched Queen City is progressing favorably at the Cleveland shipyard, and the berth she lately vacated is occupied by the ship building for the Bessemer Steamship Co., which is to be finished by October 1st. The center keelson and a number of the keel plates are already laid, and the work of putting in the floors has begun. As the pieces composing the floors have already been riveted in the shops, the work of placing these will go forward rapidly.

The steamer Hope (Br.) which has been getting a rebuild at Walkerville, stuck on the ways when an attempt was made to launch her. Hydraulic jacks will now have to be used.

The schooner Vinland, which is building at Abram Smith & Sons' yard, Algonac, will be launched before the 26th inst. She is built of white ash, and measures 210 feet on keel, by 37 feet beam and 14 feet depth. Her frames are 6-inch flitch, with 20-inch centers. Her deck frames are made of natural bend wood, and her planking is 4, 5 and 6 inches thick. She has a steel arch with chords 12x $\frac{3}{4}$ inches running full length and is basket strapped, with steel keelson plates one inch thick. Her cabin is made of fluted pine, laid diagonally, and lin-crusta ceilings. She is fitted out with a No. 5 Providence windlass and capstan, deck hoist, two 8-inch pumps, and other modern improvements. Her capacity is 1,800 tons of coal, 70,000 bushels of wheat, or 1,250,000 feet of lumber. The Vinland, when completed, will be the property of F. W. Gilchrist, of Alpena, Capt. Harry Richardson, of Buffalo, and others. Vinland is a Norse name, and corresponds well with other names of the fleet, Viking and Norsemen. She will be sailed by Capt. Claus Hansen.

The Vinland is the sixth boat built by Abram Smith & Son, with Mr. J. H. Ihnken as superintendent, and is becoming better known each season for its reasonable prices, honorable dealing, and first class work.

THE WEEK'S LAUNCHES.

STEAMER E. W. OGLEBAY.

The steel steamship E. W. Oglebay, building at F. W. Wheeler & Co.'s yard, West Bay City, for David Whitney of Detroit, was launched last Saturday afternoon without special incident. She is a 4,000-ton carrier, and measures 375 by 45 by 26 feet 7 inches. She has triplex engines, with cylinders 23, 37 $\frac{1}{2}$ and 63 by 44 inches, a little heavier power than the City of Bangor which recently went into commission from this yard. The Oglebay has three boilers, 12 $\frac{1}{2}$ feet in diameter by 13 feet in length, with 170 pounds working pressure.

FERRY NO. 3.

The first of the two big car ferry barges in course of construction at the Craig Ship Building Co.'s yard was launched at 5 o'clock last Saturday afternoon. She is 317 by 46 by 14 feet, and is built with great solidity, with edge-bolted timbers instead of planking, and stiffened with heavy frames and knees inside. She is for the Lake Michigan Car Transportation Co., for whom the Craigs are also building a powerful tug and another barge. All will be in commission in July.

A NEW TYPE OF SCOW.

At Laird's & Son's shipyard, Ashtabula, was launched Saturday forenoon the big fueling scow just built for M. A. Hanna & Co. She was named George B. Raser, in honor of her designer, the well known dock manager, and was christened by Miss Ruth Raser, his daughter.

The scow is equipped with powerful machinery, which not only propels the scow by means of her turn screws, but which operates her loading machinery, which is a radical departure from the usual methods of fueling

with crane and buckets. In the George B. Raser buckets and cranes are dispensed with, and the conveying is done by endless chains and carriers. The scow, which is 180 feet in length, has a trough four feet wide, from end to end, on the what would be the line of keel if she had one. This trough is lined with boiler steel. Each side of the scow is divided into eight pockets, each having a capacity of 30 tons, the total capacity of the scow being 480 tons. Each pocket has a steel covered bottom inclined toward the middle trough at an angle of nearly 45°, and is connected with it by agate which can be opened or closed at will. The trough is traversed by an endless chain with conveyors, and as the coal drops out of the pocket into the trough it is conveyed to the end of the scow. Here it is dropped into an upright conveyor, which is operated on the same principle as conveyors in grain elevators, and after reaching the proper height is dumped into a spout through which it slides into the vessel's coal bunkers. In this way a vessel can be furnished with 150 tons of fuel per hour, and the scow can be loaded from the car dump in half an hour when everything gets into line.

MISCELLANEOUS.

At Devney's shipyard, Ashtabula, there was launched at 7 o'clock Saturday evening, the little passenger tug built for the Ashtabula Passenger & Fishing Co. She was christened Effie B., in honor of Miss Effie Blackslee, neice of Capt. Wm. Dunn, one of her owners. She will be finished at once. She has a very pretty model and will, it is predicted, make a good business boat.

At Buffalo, David Bell has launched the steel steam yacht he built for George Moon, and will soon launch the smaller one he is building on his own account. The Moon yacht will be called the Alert and will be put on the river for parties. She is 75 feet long and a very neat craft.

GENERAL REPAIR WORK.

CLEVELAND.—The George W. Morley is still in the Cleveland dry-dock. It was found necessary to give her nearly one-third new bottom, with a corresponding number of frames and area of ceiling. She also received extensive repairs to decks and bulwarks. The F. C. Leighton, which has been getting new ends and new ceiling and planking, will succeed the Morley in the dock, to complete her rebuild. The Cleveland Dry-dock Co. is also doing several odd jobs about the river.

The Inman tug Bob Anderson was brought down from Duluth by the W. B. Castle of the same line, and has received a new boiler at the Cleveland shipyard.

At the Ship Owners' dry-dock the schooner John Magee has been having some leaks stopped. Capt. John W. Moore's yacht, the Liberty Ware, has had a boiler and engine put in, with a reversible wheel. Her machinery is now being tested.

BAY CITY.—The MacKinnon Manufacturing Co. have had several boats in the slings during the week. The tug Tom Dowling had her shoe repaired and the C. H. Davis got a new wheel. The Arundel broke a bucket off her wheel, and has the opposite blade knocked off. She will be furnished with a new MacKinnon wheel next week. A wheel was shipped last week to the tug Aldrich, at Cheboygan.

CHICAGO.—At the Chicago Shipbuilding Co.'s yard the steamer Brazil was in dock to have a leak stopped. The steamer Matoa received some new stanchions and rail; the schooner James Mowatt some new deck plank and calking. The steamer Onoko is receiving repairs to her pilot house and stanchions and rails, and other damage sustained by her collision with the schooner Mary D. Ayer.

At Miller Brothers' shipyard the schooner S. A. Wood was in dock for some new bottom plank and recalking; the schooner yacht Crusader for a new false keel. The latter also received a gasoline engine, shaft and wheel. The steamer Hecla was in for searching up and some calking; the schooner Robert Howlett for recalking; the steamers Josie Davidson and Cyclone to have leaks stopped; the schooner yacht Mystral to have her bottom calked, scraped and painted; the tug Commodore, to have a leak stopped; the steamer J. D. Marshall for some bottom calking; the schooner T. Y. Avery for recalking bottom; the steamer Uncle Charley for a new wheel.

DETROIT.—The Iron Age will get an entirely new boiler. The City of Toledo and Darius Cole have been getting a spring overhauling. The boilers of the J. J.

Hill are being repaired. Capt. E. A. Hanley is overhauling the steamer Island Belle in the River Rouge.

BUFFALO.—The steamer Haze has been in dock for an overhauling. The J. C. Gilchrist and barge Levi Rawson are in for bottom calking and other repairs.

TOLEDO.—The tug Wisconsin, which sank off Lorain, has been placed on Skane's marine ways, and will be thoroughly overhauled. She will be ready for work in a week. The schooner Ed. Kelley has been getting new bottom planking and calking at Gillmore's dry dock. The Valley City, which is to go to Galveston, Tex., has been in Craig's dry-dock getting ready for the trip.

OWEN SOUND.—The schooners H. M. Stanley and Dolly Morden were docked for calking, their oakum having been pulled out by ice. The Majestic is getting repairs to rudder and shoe.

SUPERIOR.—A preliminary survey was held Saturday on the John V. Moran, damaged by collision with the Grover. Capt. J. H. Killoran, of the Northern Steamship Co., represented the owners, and J. R. Oldham, of Cleveland, the underwriters. The port side was found broken through from bilge to deck; her starboard side planking was also broken and forced out amidships, and her decks are bent over to starboard. Repairs will take about three weeks and will cost some \$14,000.

PORT HURON.—The big lake tug John Owen, which has been getting a rebuild at Alpena this winter, was in dry-dock here getting her stern bearings lined up. Last winter the tug was docked and her hull put in good shape, with new deck beams and entire new deck. Her machinery was also thoroughly overhauled. The Rhoda Stewart came out of Dunford & Alverson's dock Thursday after a thorough rebuild. The barge Magnet has also received a general overhauling.

MANITOWOC.—The Green Bay steambarge Liberty is being generally overhauled and will receive a new boiler; the little steamer Allie E. Shipman is undergoing repairs and is being housed over. The Shipman is to ply between Esconaba and Rapid River, having recently been purchased by the E. & G. T. Co. The Goodrich line sidewheel steamer Sheboygon was docked for recalking.

REPAIR NOTES.

The steamer Jim Sheriffs has been found to be a constructive total loss by the underwriters, who will sell her as she is.

The schooner Norma is getting repairs at Monk's dry-dock, Sandusky.

Mr. L. Black, of L. Black & Co., dealers in optical and nautical instruments, Detroit, was in Cleveland Tuesday. The firm expect to remove their establishment from No. 145 to No. 156 Woodward avenue, Detroit. They are also leaving at the offices of some of their friends, some large and handsome thermometers.

Owing to the delay in the mechanical work of getting out our Directory of Masters and Engineers, it has been decided to make the price uniformly 25 cents to all. The directory will comprise about 50 pages, with the names alphabetically arranged, of about 1000 vessels and masters, and of about 600 engineers.

Beeson's Inland Marine Directory is now on sale at the MARINE RECORD office, Fourth floor Western Reserve Building. Each purchaser will receive free a copy of the MARINE RECORD Pocket Directory of Masters and Engineers.

The Vulcan Iron Works Co., Toledo, is making two large steam shovels for the Oliver Mining Co., of Virginia, Minn. The machines will weigh 93 tons each and capable of moving 4,500 tons in 10 hours.

THE Standard Oil Co. has decided not to send a barge in tow of one of its tankers across the ocean this year. The company has been thinking of this project for about five years.

Major Adams, the lighthouse engineer, invites bids for the excavation of 7,000 cubic yards from the lighthouse slip at the foot of Mt. Elliott avenue, Detroit. Contractors have until noon of today to put in their bids.

The steamer Pine Lake is for sale by the Charlevoix Lumber Co. A number of other bargains are to be found in our special column on Page 15.

NEW INVENTIONS.

One of the latest patents has been issued to protect an Apparatus for Elevating, Transporting and Discharging Coal (No. 559,852), Ole Johnson, of Milwaukee, being the patentee. The claim is for the combination, with a plurality of towers, of a carriage-supporting cable stretched on and between the towers of each set, a carrier adapted to travel on each cable, and means for moving the several carriers on their cables; of a belt running from a source of power supply to and on a driven shaft in a tower of each set of towers; and a drum in each tower having such driven shaft, in connection with the means for moving the carrier arranged to be put into action from the driven shaft. Also of an endless shifting rope secured to each carrier and winding on the corresponding drum, the rope being adapted to move the carrier in opposite directions on the cables, two shafts in one of the towers of each set of towers, an endless belt from the source of power supply running in one direction on one of said shafts and running in a reverse direction into the other of said shafts. One of the towers is provided with a normally horizontal but upratable boom, and a carrier-supporting cable running to the extremity of the boom and to the distant tower. There is a winch in the boom-provided tower and means for rotating the same; a draft rope secured at one extremity to the distant tower and running on pulleys in the carrier, with a tackle for lowering and raising the boom.

Benjamin F. Stauber, of Concordia, Kan., has secured a patent (No. 559,912) on what purports to be an Improved Propeller, consisting of a boat which is provided with a semi-cylindrical groove on the under portion or on each side from the keel, with a suitably hung screw with half of its lateral projection within each semi-cylindrical groove, and half without the grooves, in combination with screw propellers attached to the after ends of the shafts of the long screws.

A patent (No. 559,836) on a Rowlock, has been issued to Fred H. Bassett, of Waterbury, Conn. The claim is as follows: "An improvement in rowlocks, comprising in combination, with the rowlock 6 having the vertical spindle 5, of the bearing 4 in which said spindle is journaled, and means, substantially as shown, for detachably securing it thereto, said rowlock having a recess to operatively receive the upper end of said bearing and thus prevent the entrance of dust and escape of lubricant, a chamber of said lubricant, the gunwale iron having a central socket to receive and support the rowlock bearing."

Benjamin G. Cahoon, of Marshfield, Mass., has obtained letters patent (No. 559,843) on a Reefing Device. This comprises hinged sections adapted to be closed upon and engage the sail, and having provision whereby it may be attached to the boom, and one or more hooks carried by one or both sections and adapted to be engaged by the reef-points. The opposing hinged sections are provided on their inner adjacent faces with opposing recesses or grooves for the reception of the bolt rope of the sail when the sections are closed thereon. At the free ends they are provided, one with a pin and the other with an opening therefor, a latch or stop carried by the pin and adapted to engage the opposing section for holding the sections together.

Patent No. 559,890 protects a Screw Propeller, invented by George H. Gere, Grand Rapids, Mich. His claim is as follows:

1. In a screw-propeller, a longitudinally-movable driving-shaft, a rotative sleeve surrounding said shaft and having racks at each side, a hub longitudinally movable upon said sleeve and attached to the outer end of said shaft, blades journaled in said hub and moving therewith, and toothed sectors attached to said blades and engaging said racks.

2. In a screw propeller, in combination with a driving-shaft having flattened sides, a sleeve having an inner surface to contact said flattened sides, a hollow hub secured to said shaft, blades journaled on said hub, sectors on said blades, racks formed in the sides of said sleeve and adapted to engage said sectors, and a casing engaging said sleeve and adapted to be secured to the boat.

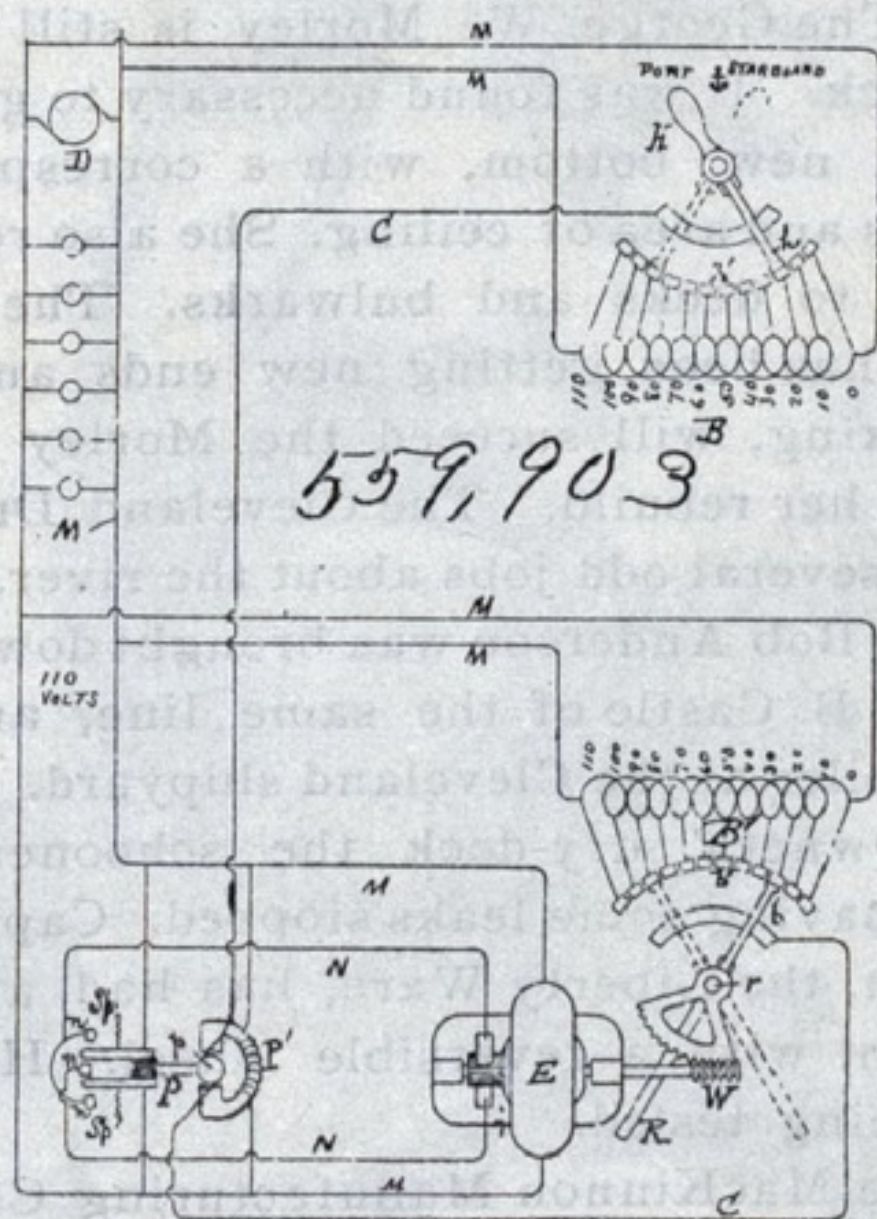
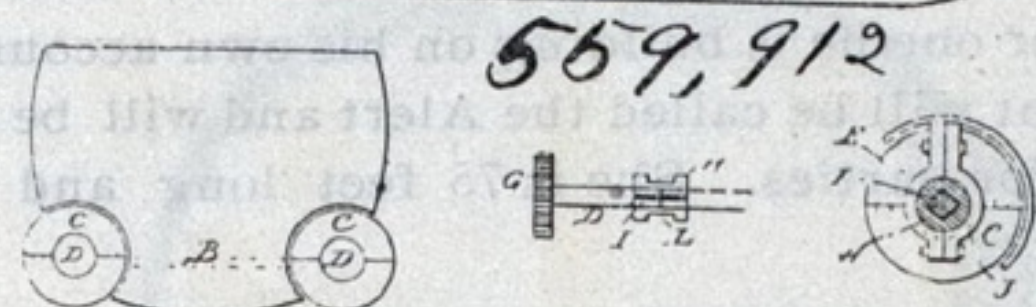
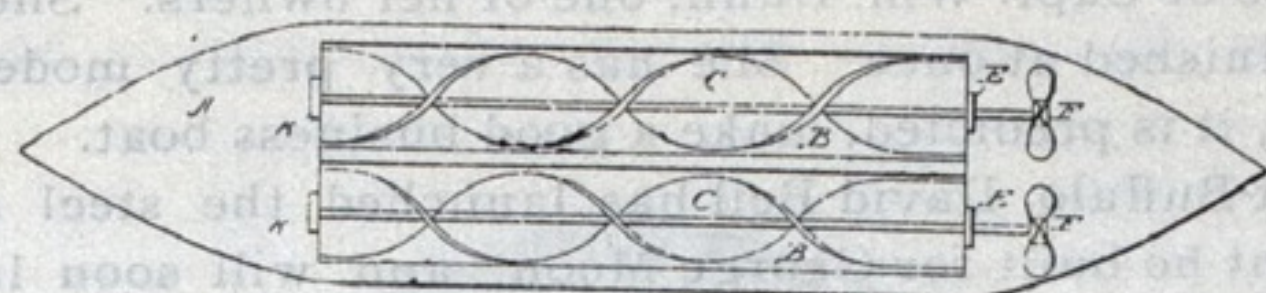
Mathias Pfotischer, of Philadelphia, has invented a Steering Gear for Ships (Patents Nos. 559,903 and 559,904.) The claim is as follows:

In combination with an adjustable apparatus, motive power for adjusting said apparatus, an electrically-actuated controlling device for the said motive power, a controlling circuit or branch (C or C'), two or more suitably-derived series of points maintained at different or graduated potentials, means, as a movable

contact, connecting the said circuit to one said series of points and adjustable at will to thereby apply more or less electromotive force or potential to the said circuit, and means actuated by the said motive power for connecting the said circuit to the other of said series of points so as to apply more or less opposing electromotive force or potential thereto.

2. In combination with an adjustable apparatus, motive power for adjusting said apparatus, an electrically actuated controlling device for the said motive power, two or more suitably-connected series of points maintained at different or graduated potentials, one or more movable brushes or contacts permanently connected to one terminal of the said controlling device, and adjustable at will to introduce more or less electromotive force or current from one of the said series of points, into the said controlling device, and on or more movable brushes or contacts permanently connected to the other terminal of the said controlling device and actuated by the said motive power to introduce more or less opposing electromotive force or current from the other of said series of points.

The claim on the second patent is the method of electrically controlling and adjusting from a distance, a ship's rudder, gun, signal apparatus, or other adjustable mechanism, by introducing into the field-magnet circuit of an electric generator, a current corresponding in direction to the deviation of the controlling handle or device; causing the current thereby generated to control and apply the motive power for adjusting the said adjustable mechanism; and causing such adjust-



559,903

ment to introduce an opposing and equal electromotive force or current into the said balance-circuit and thereby stop the said adjustment.

Patent No. 560,165 is on a Swimming and Life-Saving Device, invented by Hans Heckler, of Frankfort-on-the-Main, Germany, and assigned by him to Charles Heckler, of Missoula, Mont. The life preserver is in the shape of a garment, having a lining made of separate ends of hose, each provided with an inflating-tube, in combination with a mouthpiece, having tips or nozzles screwed into transverse openings of a block, inclosed in a sleeve with a screw-threaded socket in its top plate, said openings in the block being covered by a valve-plate, secured to the end of a hollow transversely perforated screw-stem through which air is blown to inflate the reservoirs.

To get cores entirely removed from small castings is something of a job, and tumbling does not always do the work satisfactorily. Here is an idea that is always worth trying, as I have always seen it worked successfully in one place. It should be added, however, that it is only applicable to brass. Before the casing is perfectly cold, dip it into water, and the steam formed on the surface of the metal will blow off every particle of sand and leave the casting fresh and clean. If the metal is plunged in too hot it is apt to be softened or cracked; but after a short experience the scheme can be worked as a great labor-saver.—Dixie.

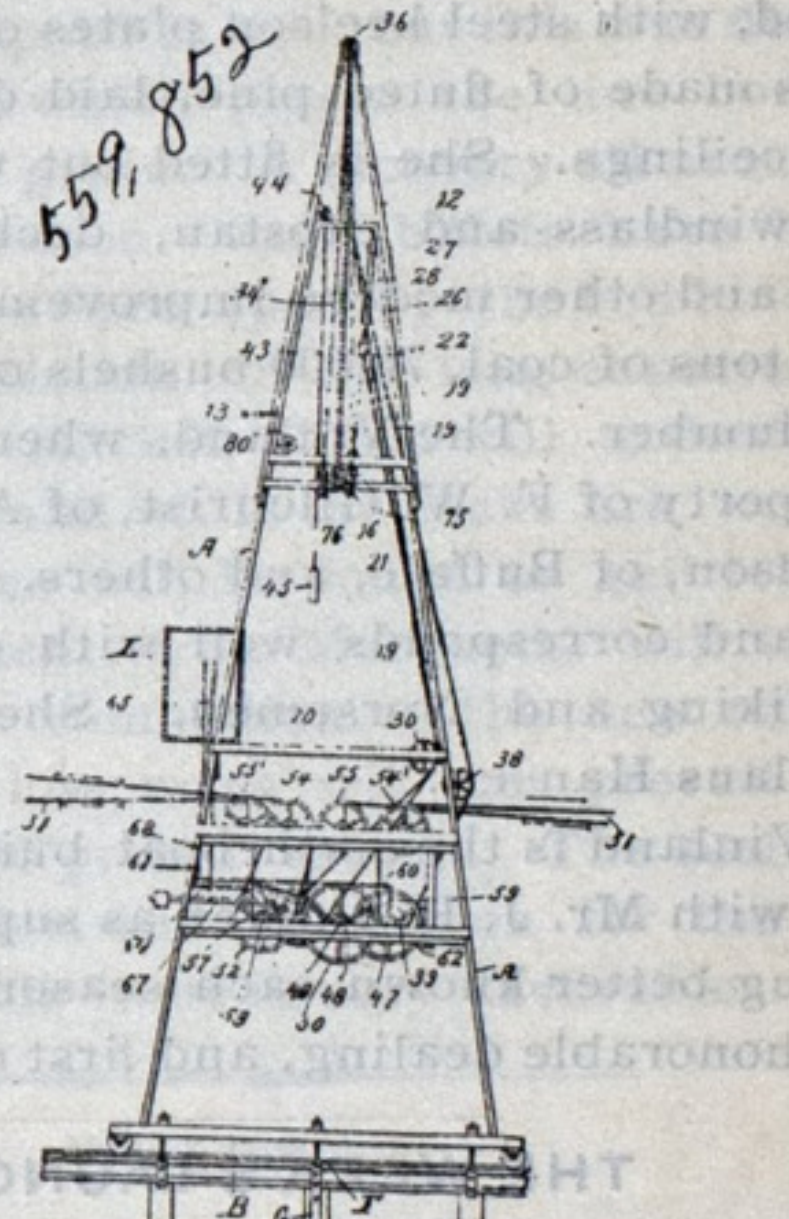
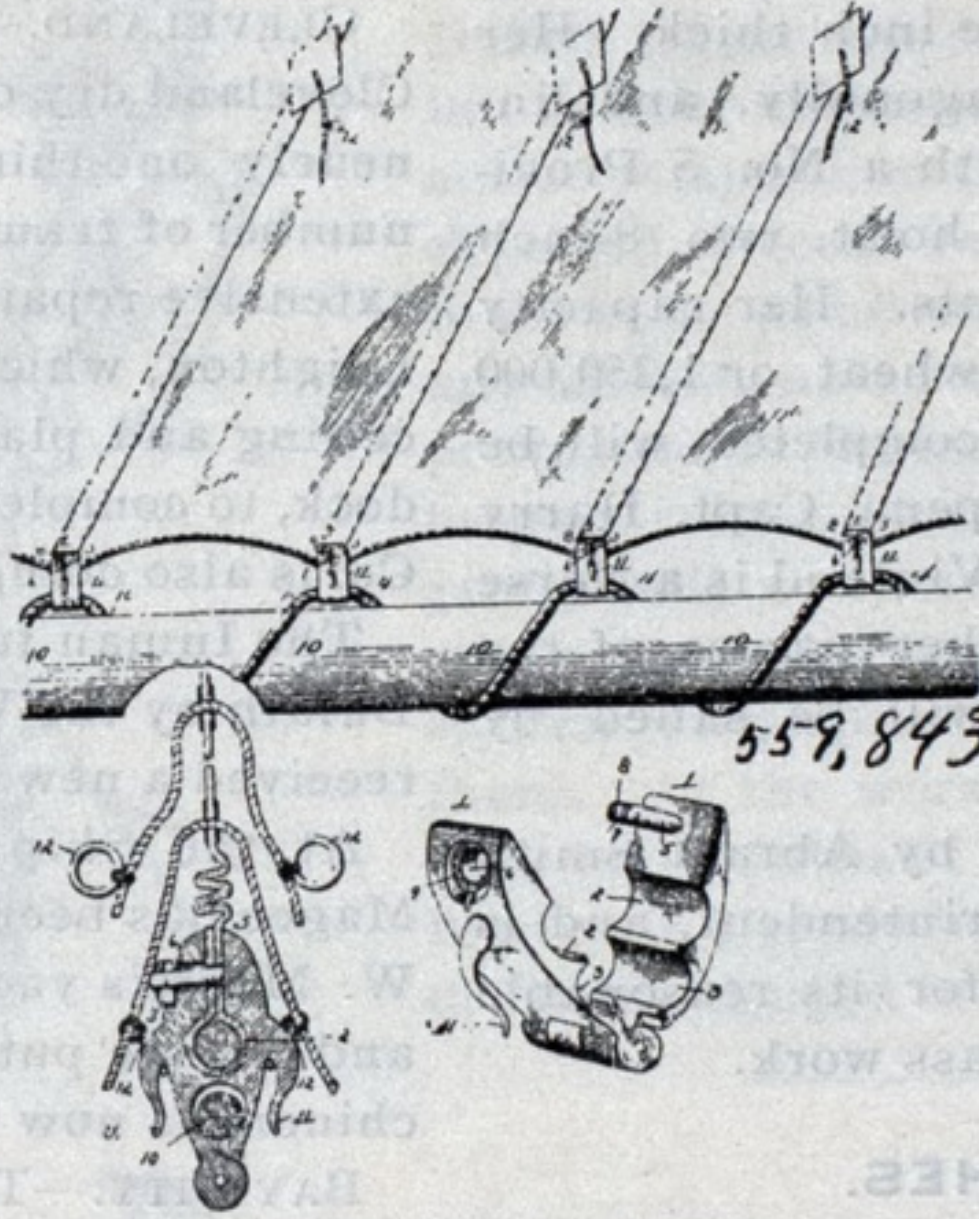
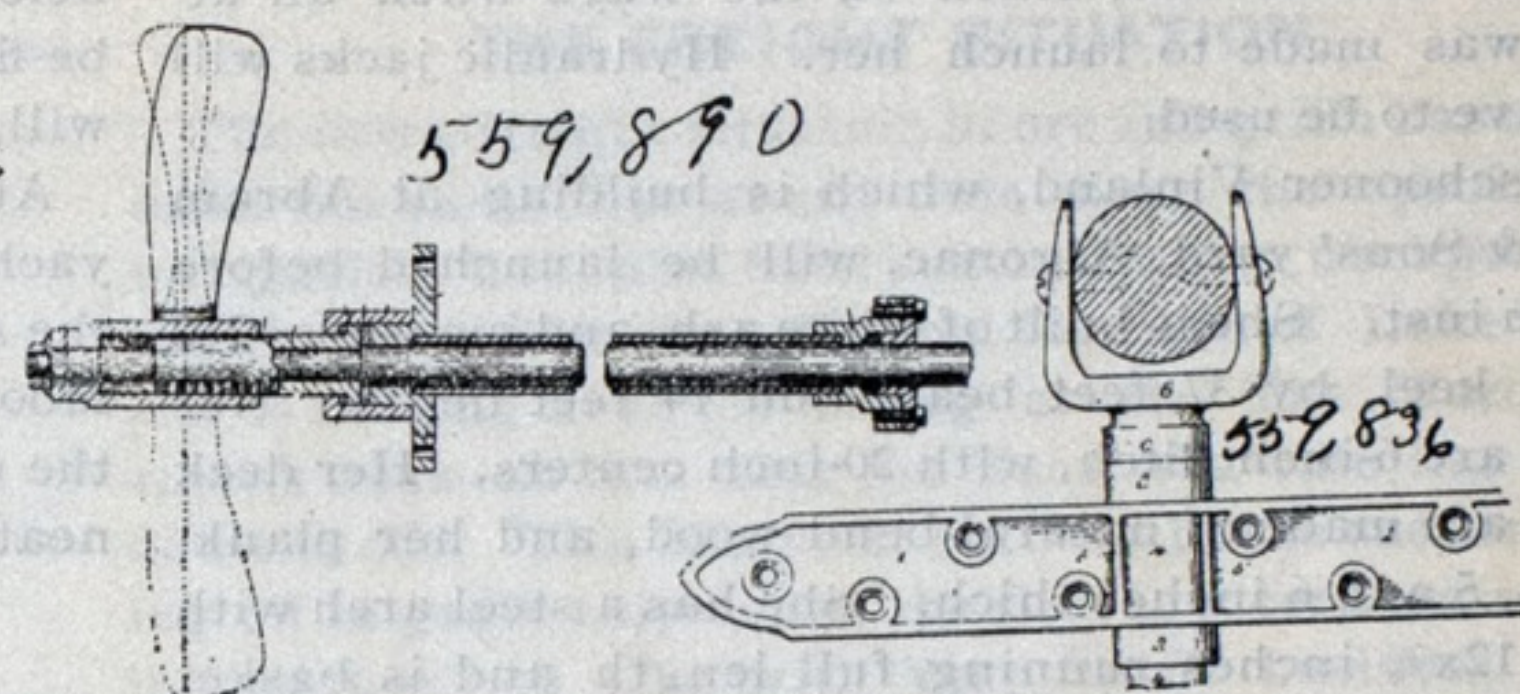
TRADE AND INDUSTRIAL NOTES.

The Michigan Electric Co., of Detroit, have just moved into new quarters, consisting of a building of four stories and a basement, and have made that headquarters for everything electrical. The building is at No. 101 Woodward, Ave., the heart of the city. On the second floor, in the front of the building is a table where electrical and other journals, including the MARINE RECORD, are kept on file.

The Continental Iron Works of Brooklyn, N. Y., have supplied four Morison Suspension furnaces to the Tuttle Manufacturing & Supply Co., of Anaconda, Mont., three to the International Navigation Co., of New York, for the steamer Illinois, and six to Wm. B. Pollock & Co., Youngstown, O. Also several to the Plant Steamship Co., for using on their steamers.

Owing to the marked increase in business since the first of the year the Penberthy Injector Co., of Detroit, have found it necessary to add a large number of Monitor lathes and improved machinery to their equipment, and to put in a new engine to supply the additional power required by the increase in plant. The change has also crowded out the stock department, which has been removed to another building.

The Rushmore Dynamo Works, of Jersey City, are meeting with great success with their large high power projectors, and are busy equipping a number of steam-

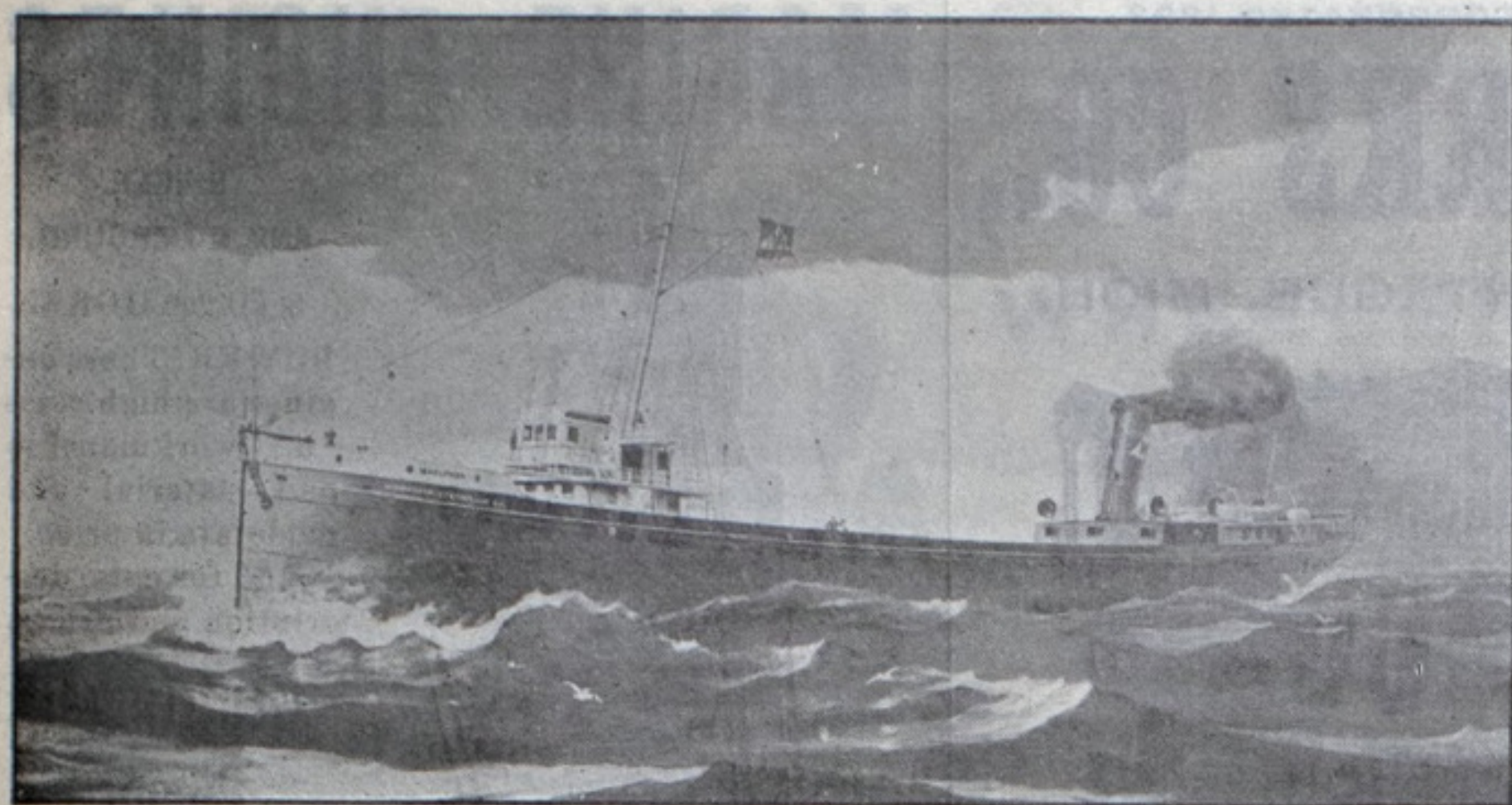


ships on the coasts and the great lakes where their apparatus is now standard. Two of their 80 million candle power lights for the steamers City of Cleveland and City of Detroit are the largest on the lakes.

PROPOSALS.

U. S. ENGINEER OFFICE, 213 Woodward Ave., Detroit, Mich., May 19, 1895. Sealed proposals for furnishing all labor, materials and appliances for (E) widening channel below Islands at Little Rapids; (F) widening channel at angle, foot of Hay Lake; and (G) widening channel from dike to angle at Little Mud Lake, will be received here until 2 p. m., June 18, 1896, and then publicly opened. Information furnished on application. G. J. LYDECKER, Lieut. Col. Engineers. 21-24

OFFICE OF THE LIGHTHOUSE ENGINEER, 7TH AND 8TH DISTRICTS, 349 Carondelet Street, New Orleans, La., May 11, 1896. Proposals for the erection of eight square and seven triangular beacons for lighting the Mobile Ship Channel, Ala., will be received at this office until 12 o'clock M. June 8, 1896, and then publicly opened. Forms of proposals, plans and specifications showing what is required, can be had or seen by applying to this office. JAMES B. QUINN, Major and Lighthouse Engineer. 21-24

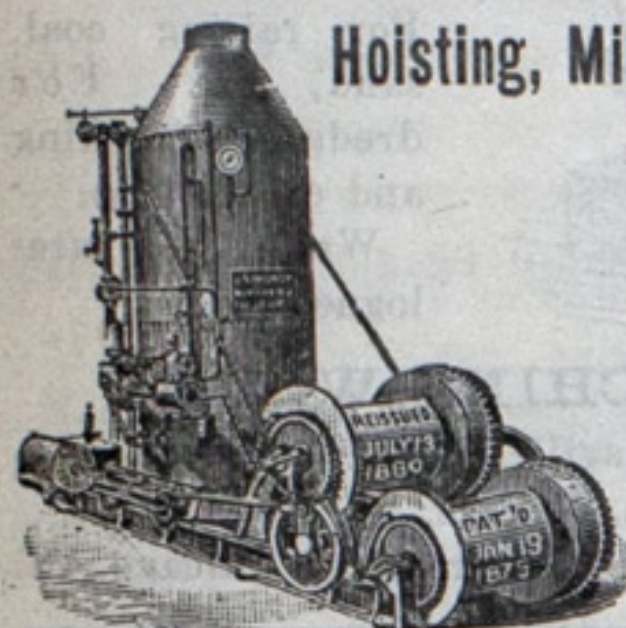


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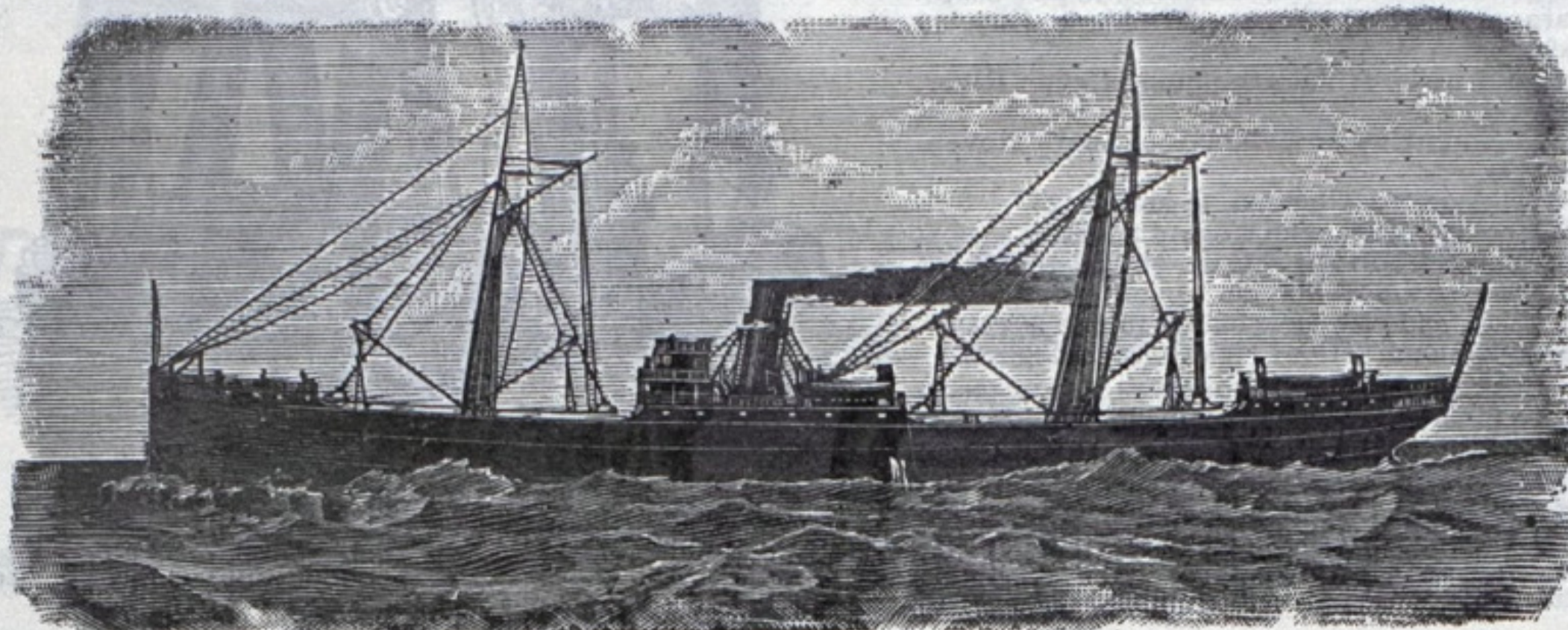


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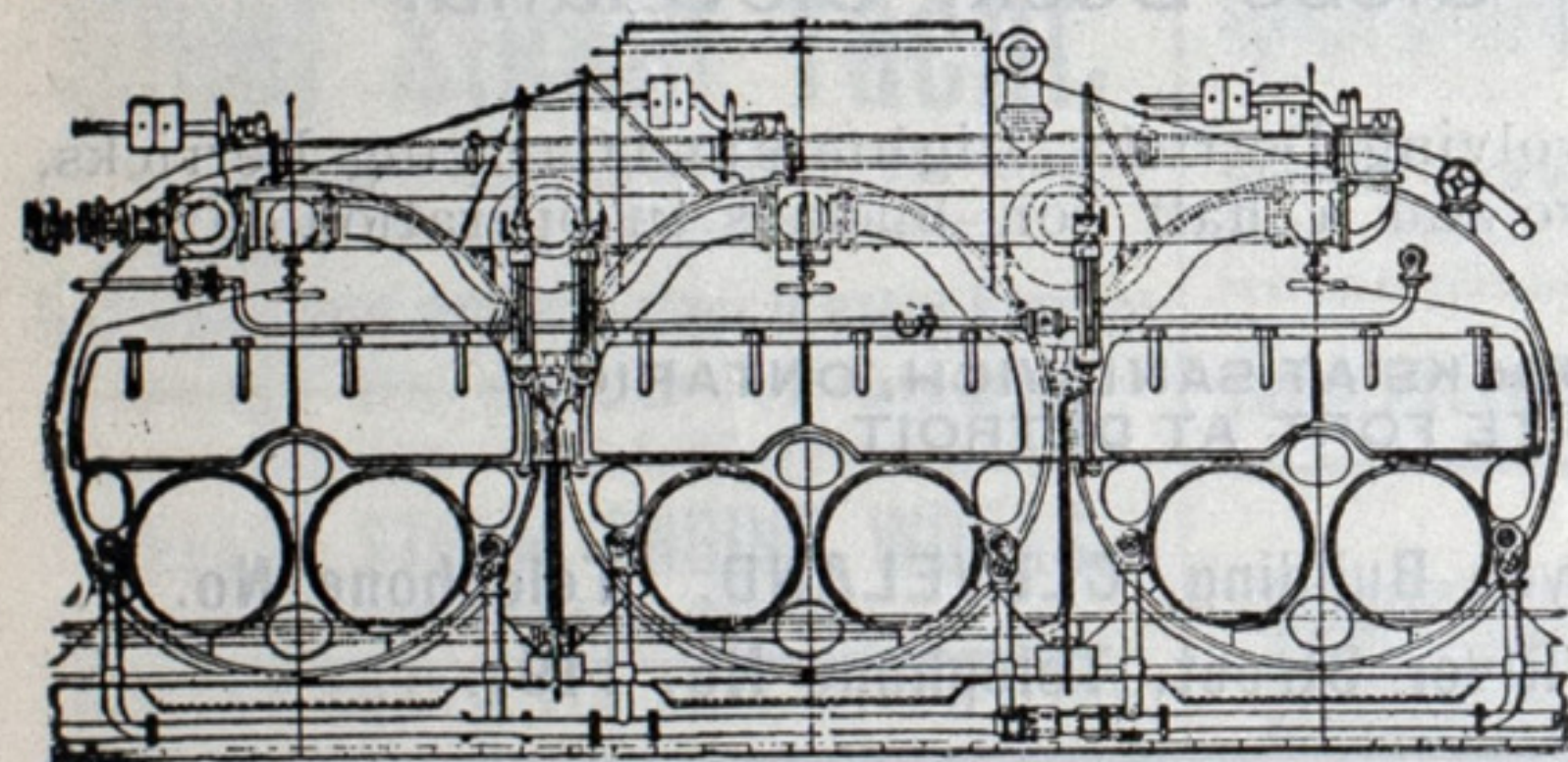
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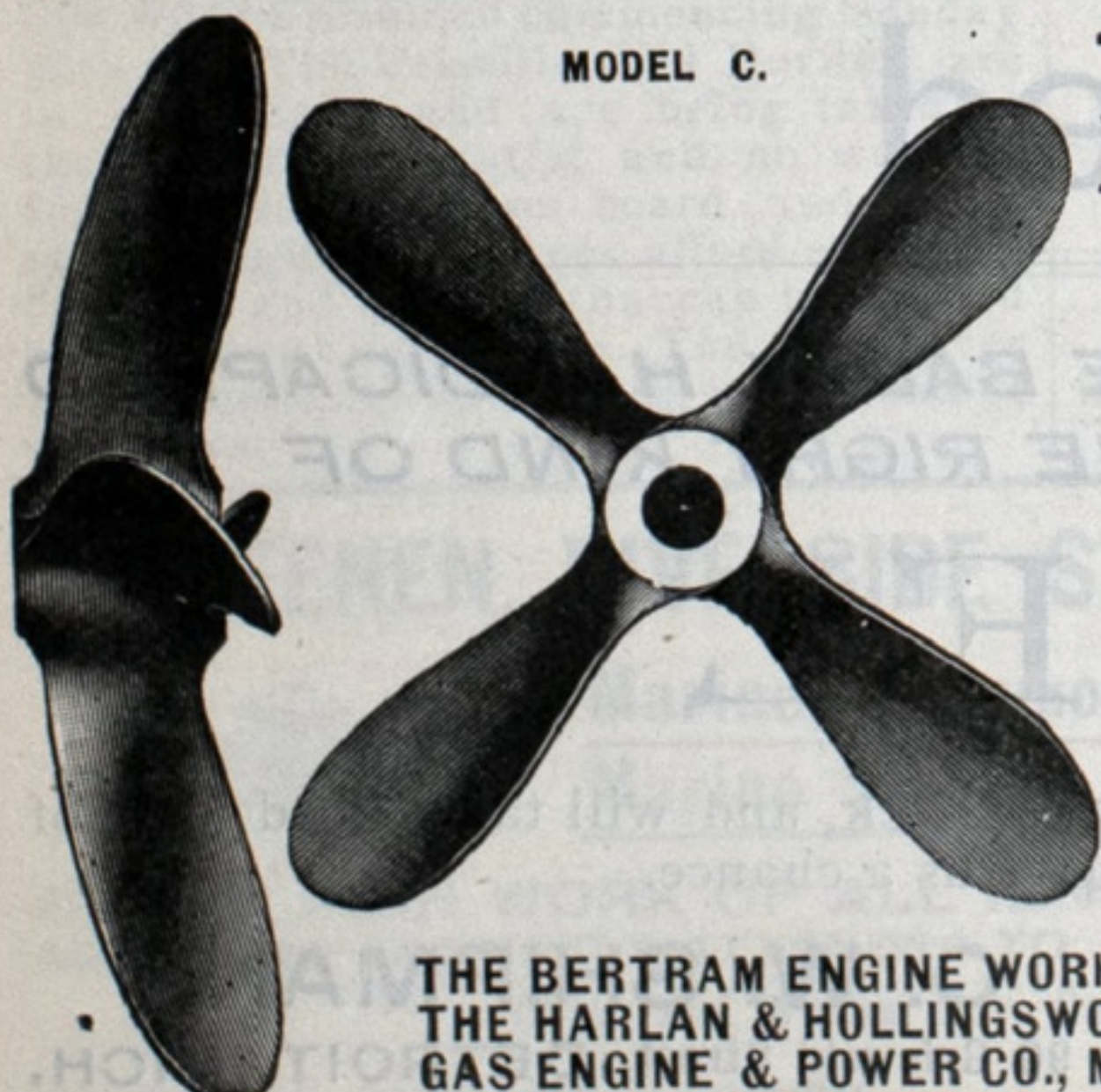
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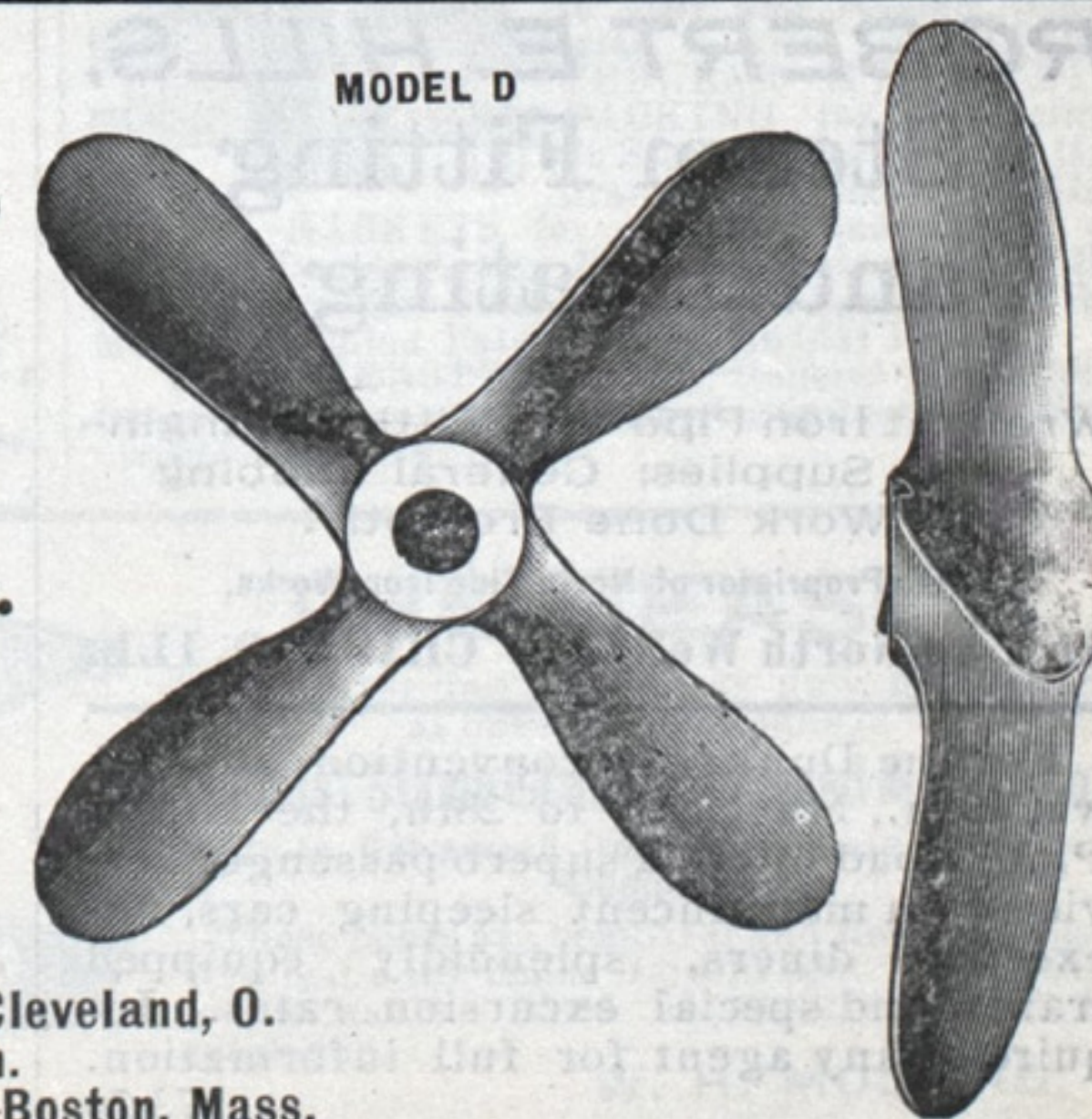
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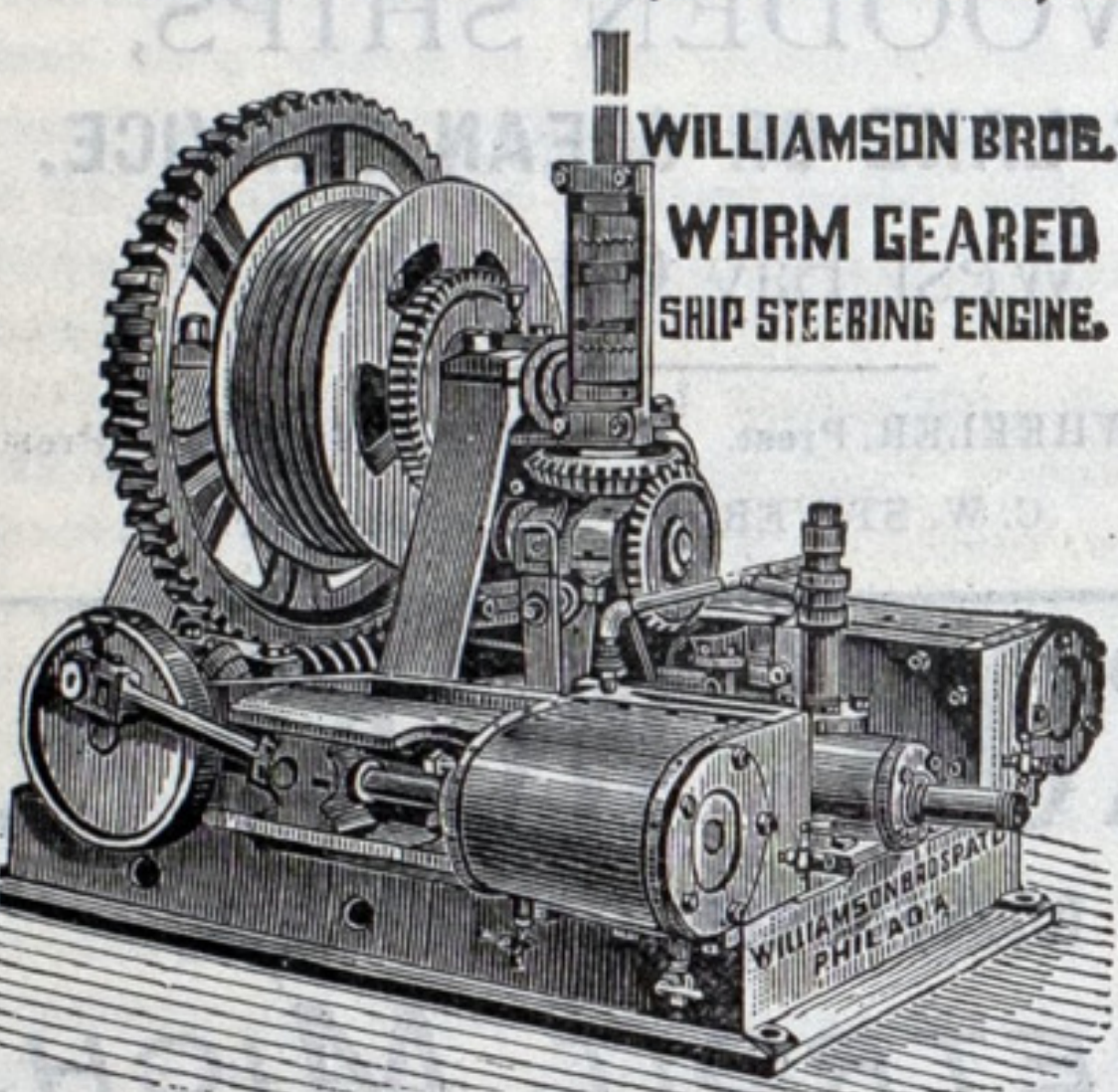
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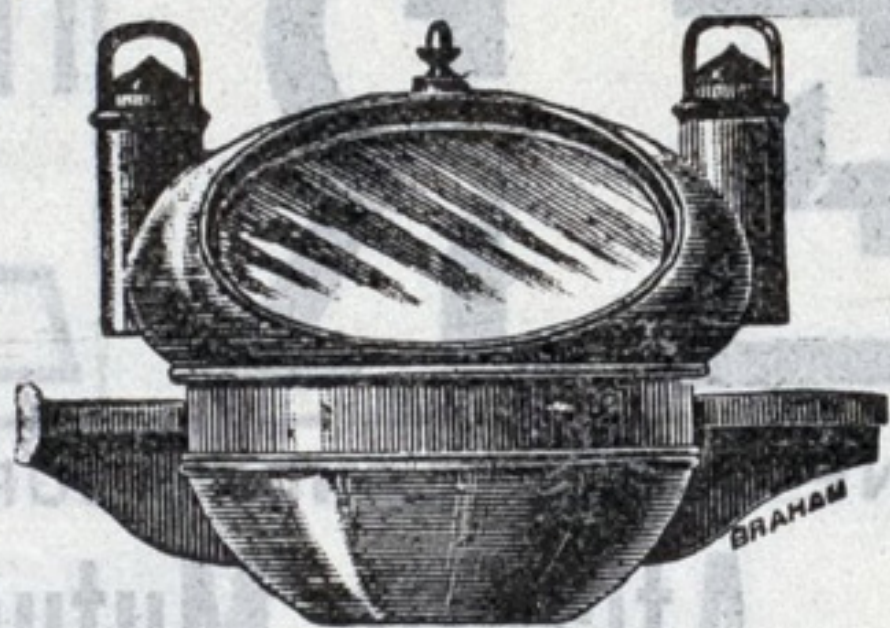
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Steam Barge Mark B. Covell, Manistee, 18 and 30x26.
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Steam Barge Luella H. Worthington, Cedar River, 19 and 36x30.
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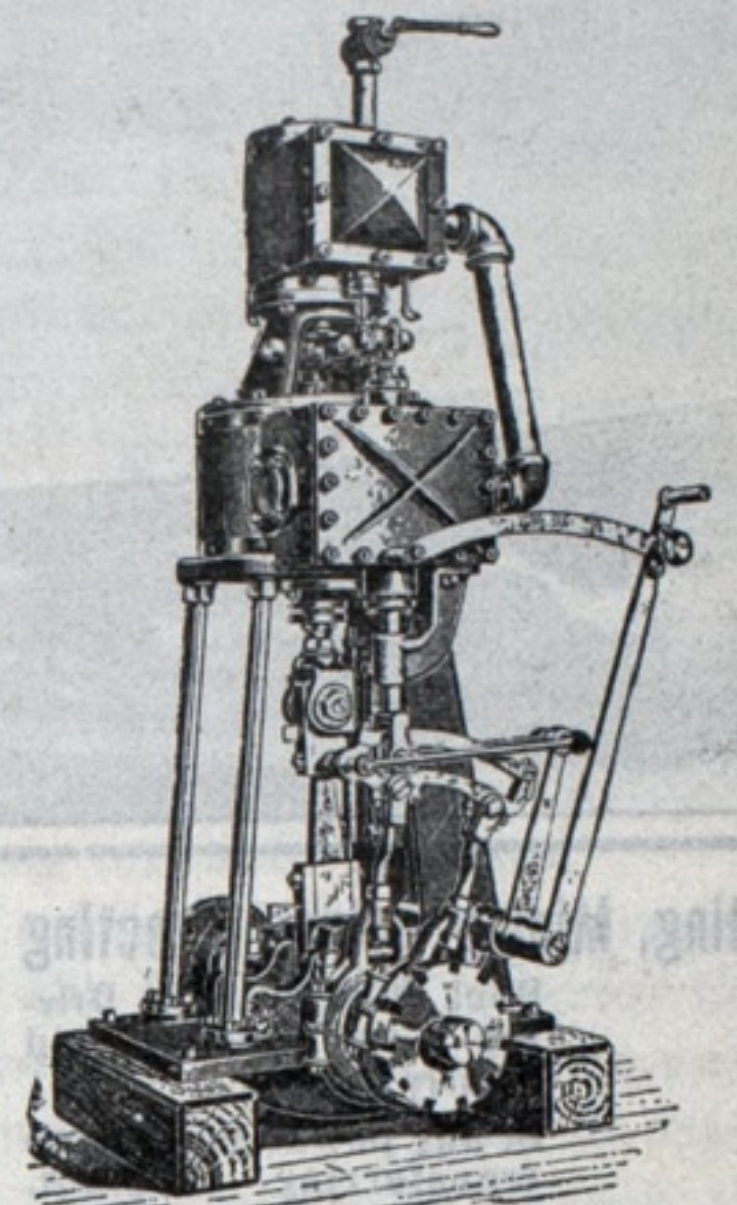
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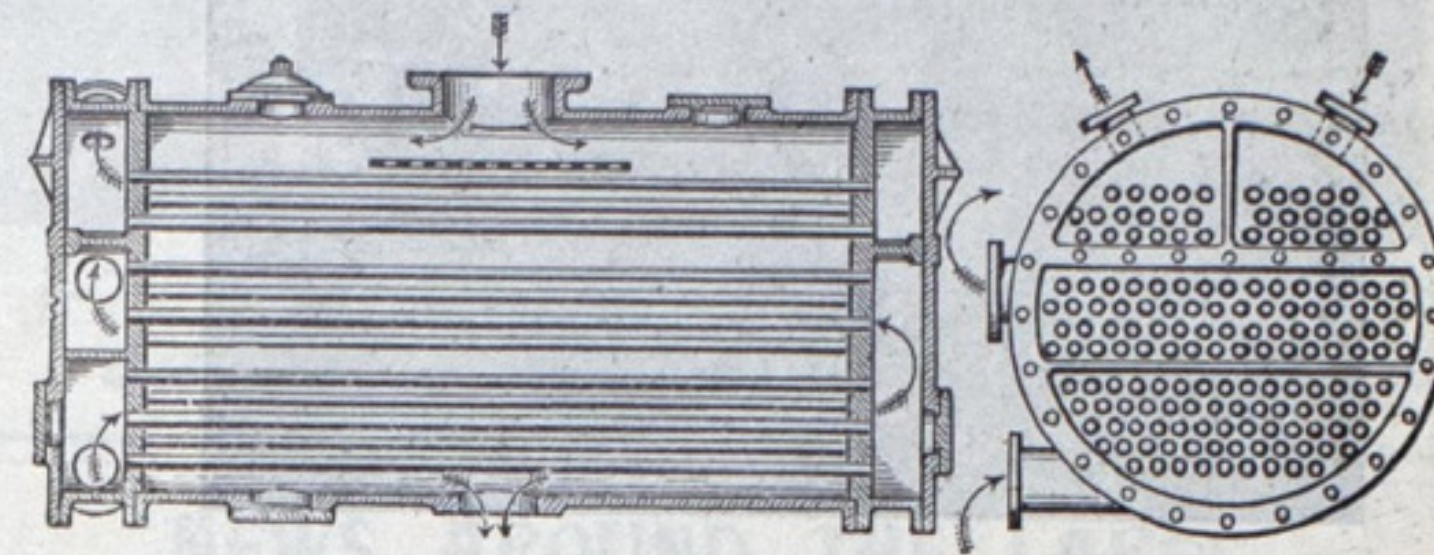
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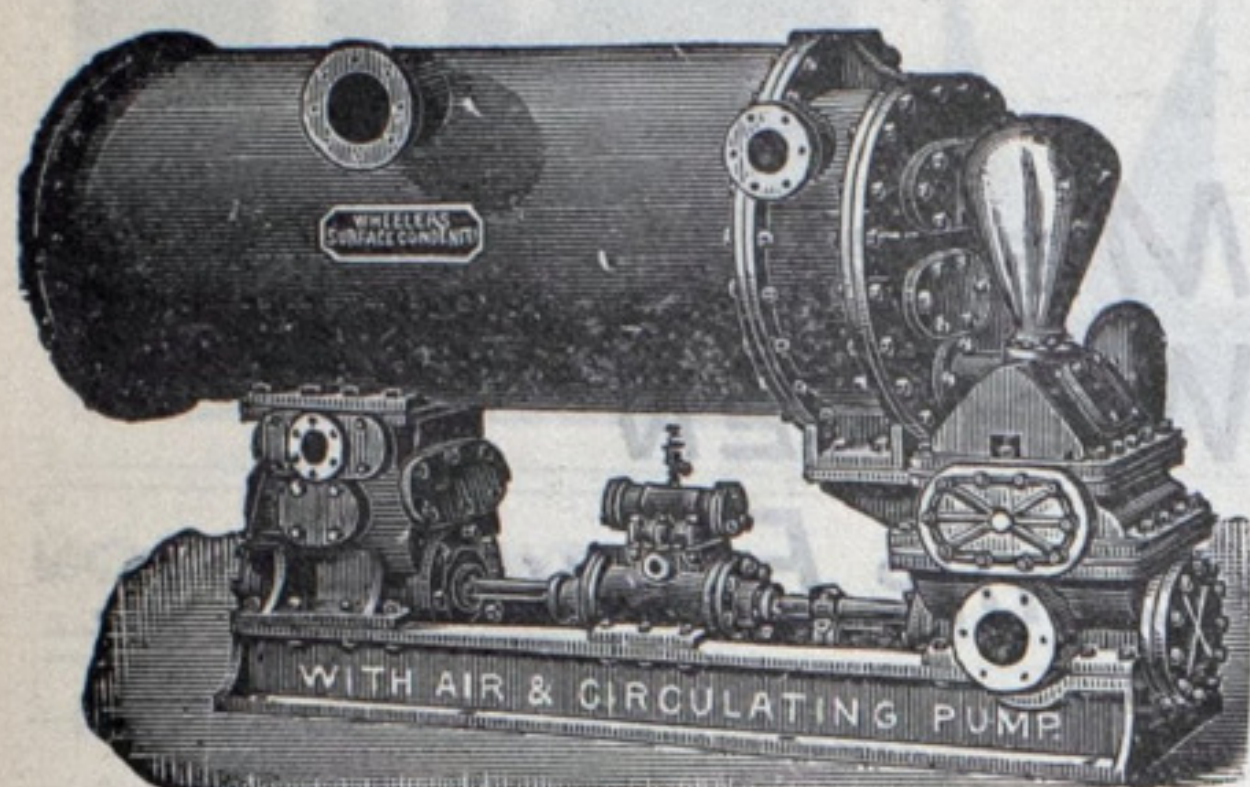
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The undersigned has been appointed
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THE COMPANY OWNS THE FOLLOWING TUGS:

NAME.	Boiler Inches.	Engine. H.P.	Over all ft.	Keel ft.	Beam ft.	Depth ft.
A. G. Van Schaick..	15x78	22x22 82	67.5	14.6	8.1	
Protection.....	15x79	22x20 90	77.4	15.8	8.9	
Calumet.....	14x75	22x22 79	64.2	17.8	8.6	
D. T. Helm.....	14x72	(2) 17x17 83	68	18	9.3	
E. P. Ferry.....	12x72	20x20 80	66.8	15	7.6	
Black Ball No. 2..	12x72	18x20 73	58.6	15.5	8.4	
A. A. Carpenter ..	12x72	18x20 75	60	15.6	8.6	
Thomas Hood.....	13x72	18x20 71	59.5	15.6	8.6	
J. V. Taylor.....	13x72	18x21 75	60.8	15.6	8.6	
Satisfaction.....	12x72	18x20 73	58	15	8	
M. Shields.....	12x66	18x20 76	62	14.6	8.2	
Rebel.....	10, 6	16x18 66	54	14.6	7.8	
	x 60					

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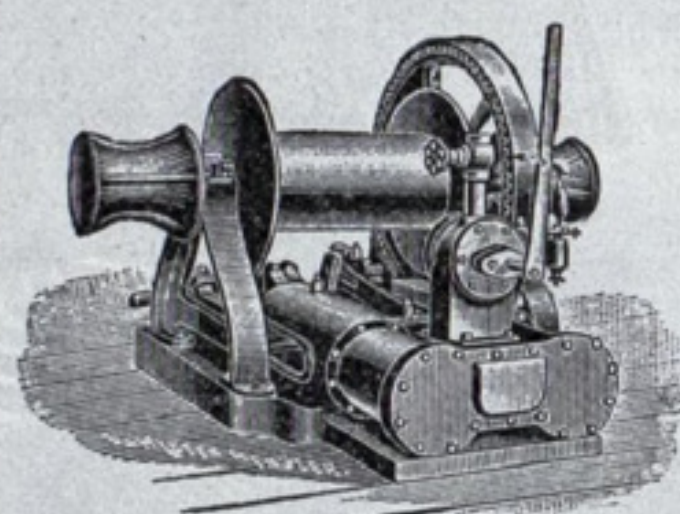
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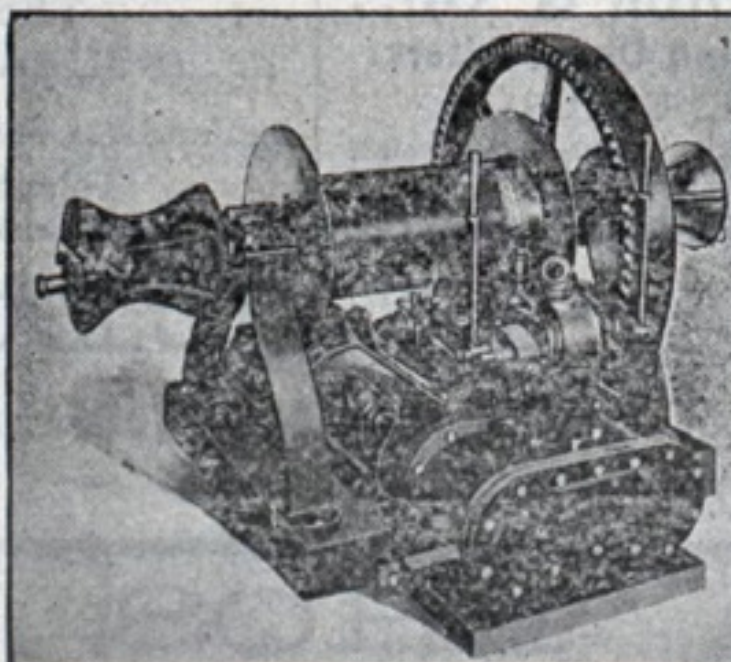
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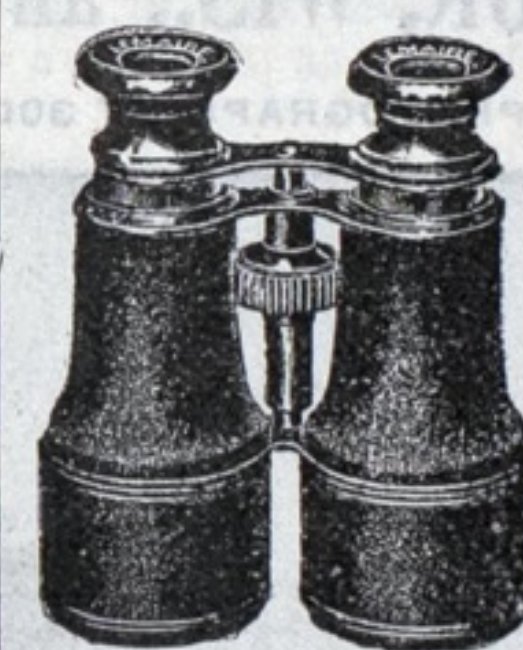
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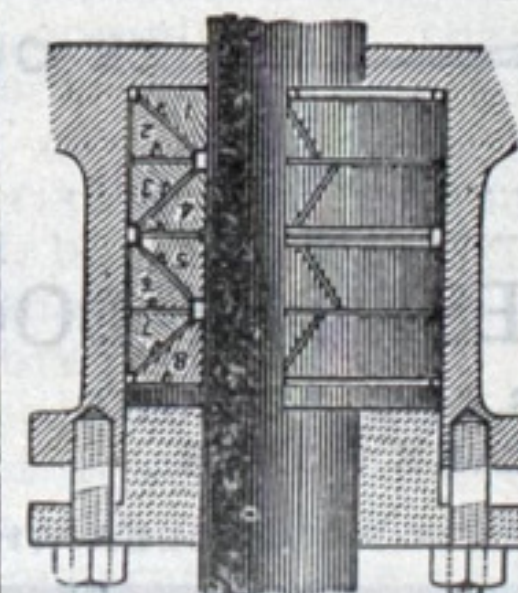
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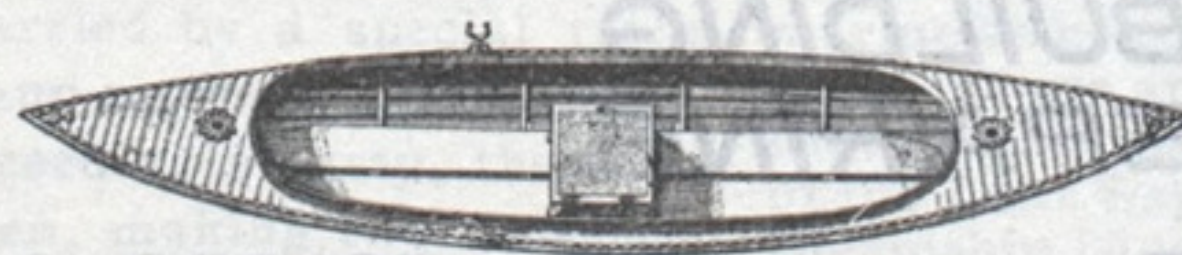
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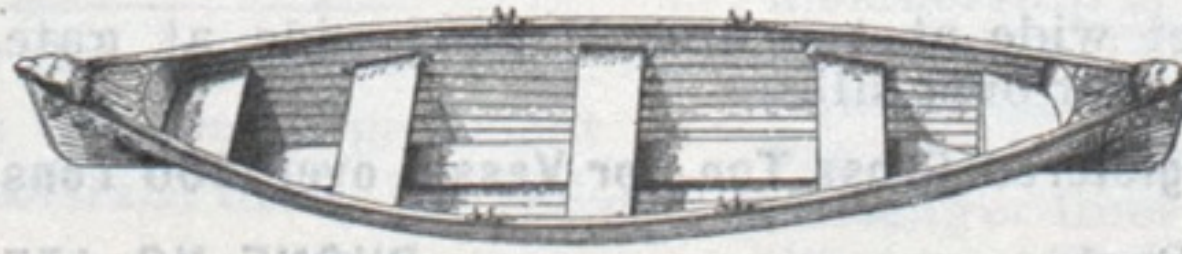
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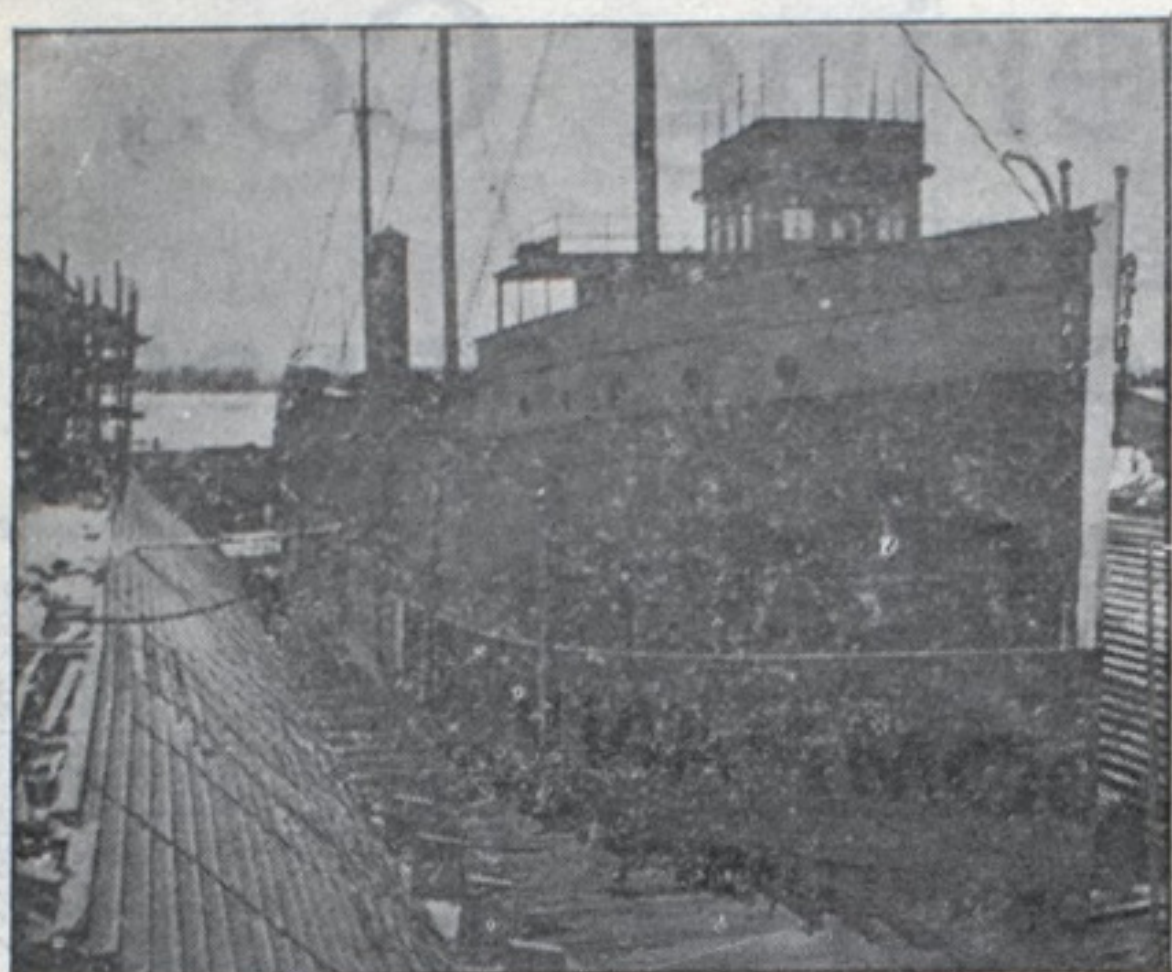
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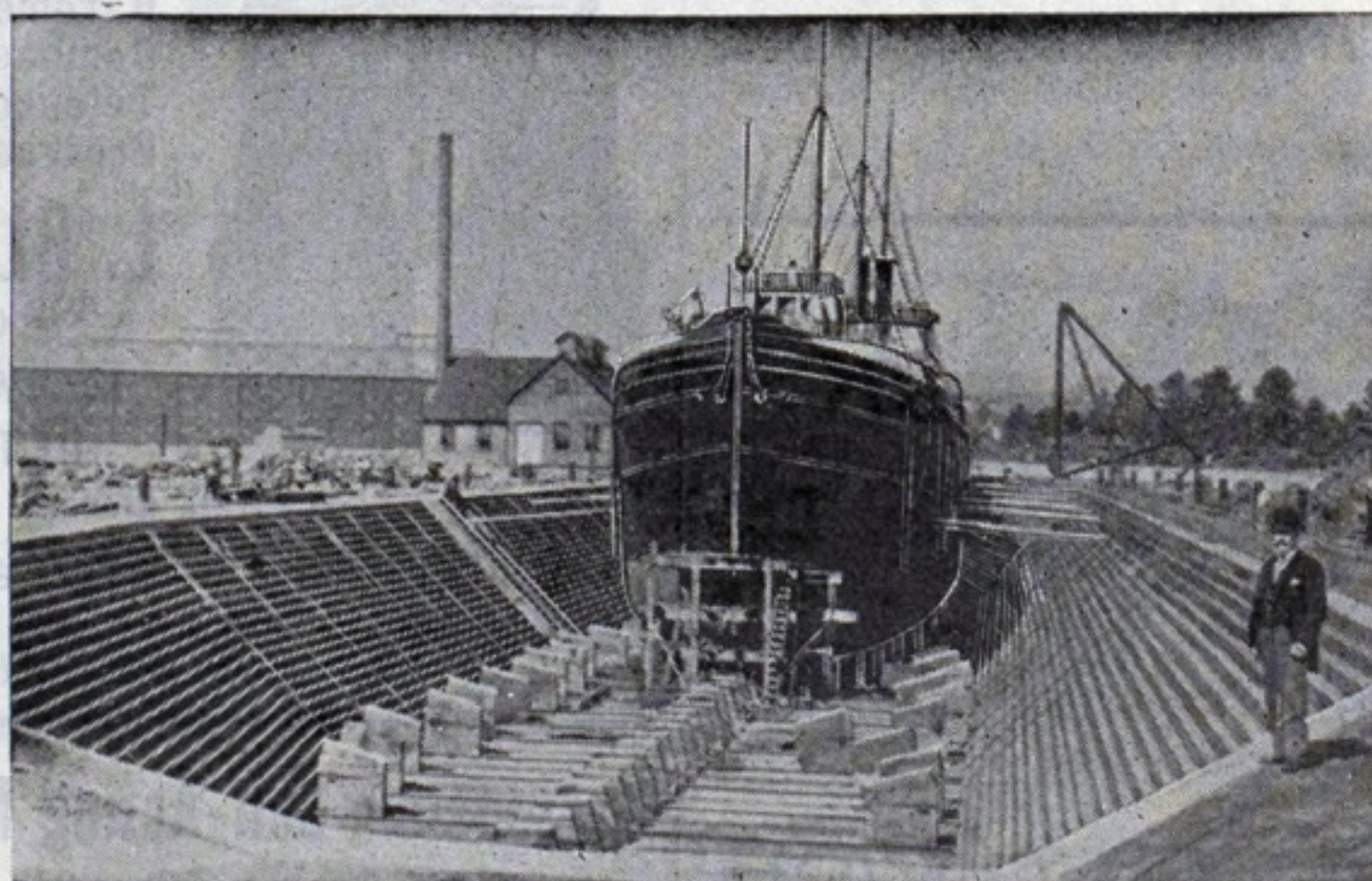
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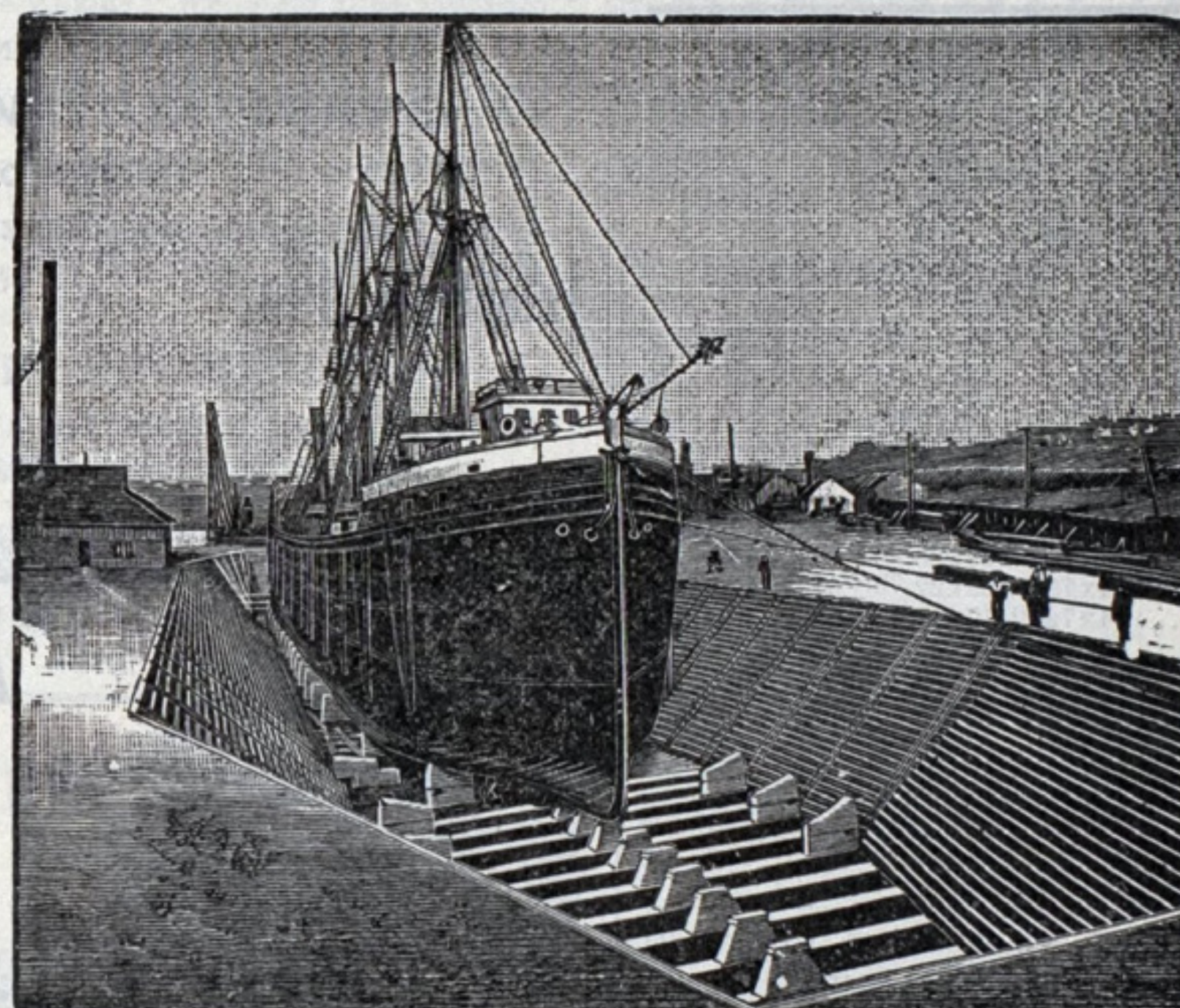
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